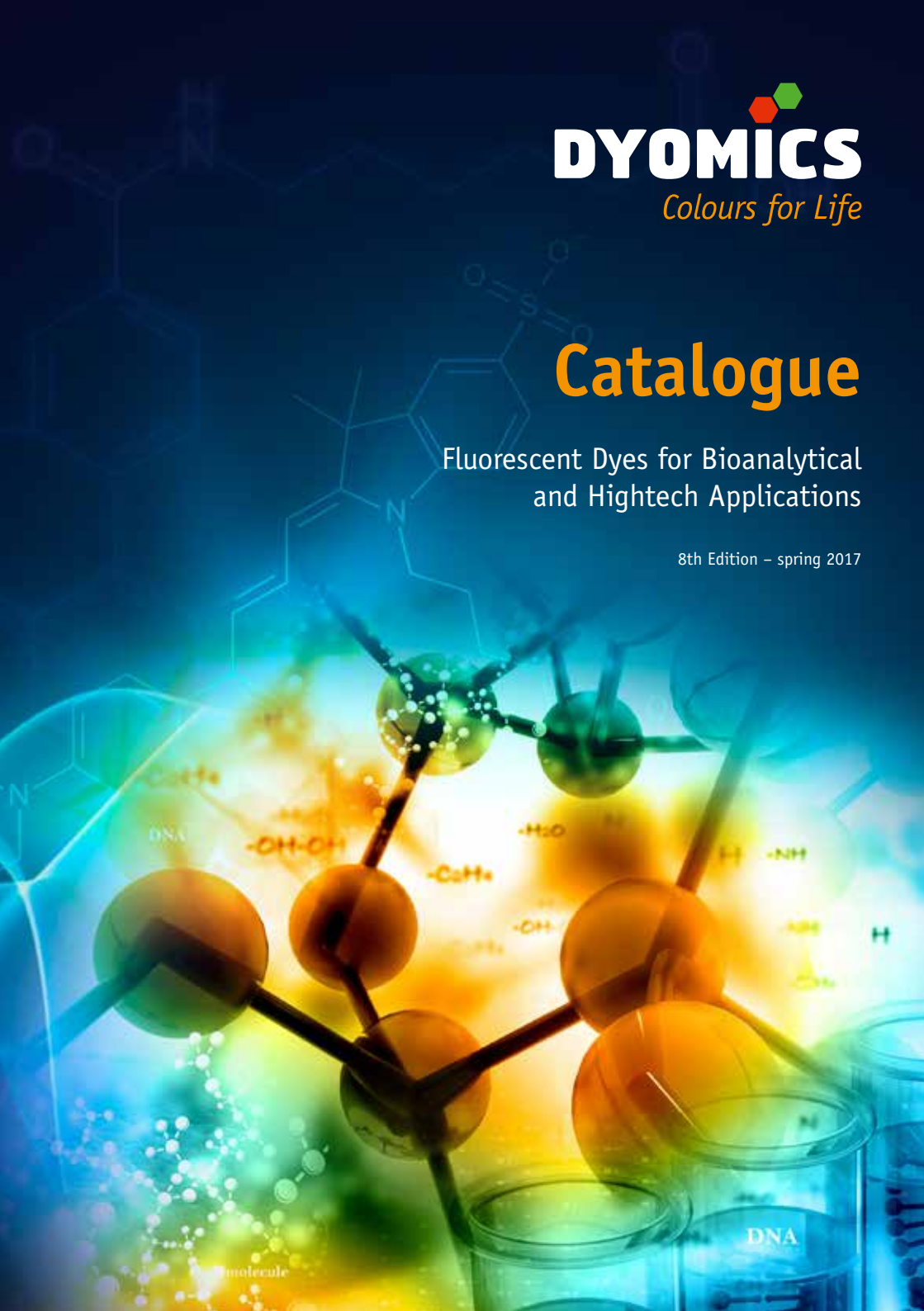
DYOMICS

Colours for Life

Catalogue

Fluorescent Dyes for Bioanalytical and Hightech Applications

8th Edition – spring 2017



Content

Preface to the 8th Edition

For nearly 20 years Dyomics has successfully advanced and brought to market decades of academic learning and research in the field of organic dyes.

Decades ago xanthylium-dyes (rhodamines) and indocyanines (CY3, CY5 and CY7) were the preferred chromophores used in Life Sciences. Each of these chromophores had clear strengths, but they also had significant limitations: xanthylium-derivatives exhibit high quantum yields and photostability, and indocyanines can reach wavelengths up to the NIR region very easily. However, xanthylium-dyes suffer from a low efficiency for excitation and indocyanines show poor stability and restricted opportunities for molecular engineering. Through the design, synthesis and tailoring of innovative fluorophores, Dyomics brought together the advantages of both xanthylium and indocyanines in a new family of hybrids between xanthylium dyes and indocyanines, called benzopyrylium based fluorescent labels.

A second notable innovation was Dyomics development of the valuable MegaStokes™ dyes, which allow multiplex applications.

According to the needs of our partners and their platforms, it is possible to tailor the new DY-dyes to fulfill given demands in terms of water solubility, reduce nonspecific mutual reactions, increase thermic and photochemical stability and provide opportunities to react selectively with the desired biomolecules.

These new stable DY-dyes work up to the NIR and red region and have gained broad acceptance from customers worldwide.

Established applications can be found in cutting edge biological research and medical diagnostics including DNA-sequencing, high resolution microscopy, flow-cytometry, DNA- and/or protein labelling and analysis, and in vivo Imaging.

Dyomics rich heritage of applied research and break-through innovations continues to this day, and we passionately serve both the academic and industrial communities with our tailored DY-dyes.
Dyomics is an ISO 9001 certified, R&D focused, customer-centered company and we are look forward to providing you with DY-dyes that exceed your most exacting requirements.

Sincerely yours,

Dr. Peter Czerney
(Managing Director)

Mission Statement

Development and growth in the use of organic dyes in biotechnology, biomedical research and clinical diagnostics is continuing. Powerful new markers and/or probes which have been constructed using knowledge of both organic chemistry and molecular biology, are combined with automated imaging workstations to define the content, activity, and dynamics of different materials in life science. These innovative applications have led to a new dye chemistry. At the present the design of functional chromophores and fluorophores is the most significant and enticing field in dye chemistry.

With more than three decades of experience in synthesis of functional fluorescent dyes, the staff of Dyomics has an excellent scientific foundation in the search for labels for bioanalytics and diagnostics. Dyomics accepts the challenge to develop new high quality "tailor made" dyes for bioanalysis and related fields of high technology. This is, however, not the only goal of our company.

As a established company, we are open-minded and flexible in nearly every aspect of colour chemistry. Our product portfolio ranges from different labels and stains for optical sensing, which includes highly hydrophilic probes and dyes including new MegaStokes' dyes with enhanced Stokes' shift.

In cooperation with business partners in the area of molecular biology and pharmaceutical research we continue the development of new tailored products. Customers' requests for special modifications and/or synthesis are always welcome and belong to our day by day business.

Our greatest wish is that our products and services will satisfy you as the customer, so that we may establish a lasting relationship with each one of you.

Products

The production of new chromophores has extensively changed the possibilities for detection of biomolecules and their interaction in recent years and has enabled previously impossible insights to be made.

The advantages of optical detection methods are in the speed of the measuring process and the high sensitivity (up to single molecule detection). In principal, the collection of data over time as well as parallel or multiple readings are feasible. Hence it is possible to answer an array of questions in biotechnology or medical diagnostics in a cost-saving and reliable manner including the application of miniaturized analysers.

In this area Dyomics offers technical know how for diverse users and hardware developers in the choice and design of suitable chromophores optimized for particular excitation and emission wavelengths.

Currently, there are more than 60 fluorophores and quenchers of the DY family available as NHS- and TFP-esters, maleimides and others for the labeling of biomolecules.

In particular, our company has great experience in the development of fluorophores which can be excited with low-cost diode lasers and show emission in the red and near infrared areas of the spectrum, as well as with custom made FRET systems.
According the demands from the customer, the activated DY dyes can be coupled covalently to amino acids, antibodies, hormones, sugars, dNTPs, oligonucleotides or other affinity tags to corresponding probes or markers.

The proprietary DY dyes are especially useful in the analysis of enzyme kinetics and DNA sequences, in the evaluation of chromosomes by Fluorescence-In-Situ-Hybridisation (FISH), in Fluorescence Correlation Spectroscopy (FCS), in FRET assays, in microscopy and in DNA and protein chips although new applications are always being discovered. Current developments for example include cell organelle specific stains and probes.

Quality Statement

Dyomics is committed to a high standard of quality. Since the second year after the foundation of the company in 1999, Dyomics has worked in accordance to the quality management system DIN EN 9001:2000 (www.tuevclub.com)

The continuous monitoring and documentation of all processes, the exclusive use of certified reagents and the final control of the products using 1H- and 13C-NMR, LC/MS, HPLC, UV-VIS and fluorescence spectroscopy guarantee a high conformity and quality of every single product, a guarantee for reproducible results.

Quality management relates not only to the different products, but also to the rapid processing of both routine and R&D contracts. Characteristic therefore is the obliging and customer orientated service and the efficient implementation of synthesis. Ultimately the key to the fulfilment of our quality claims is our qualified and experienced work force.

Table with spectral characteristics of DY-Labels

label	absorption maximum* [nm]	molar absorbance* [l · mol^{-1} · cm^{-1}]	emission maximum* [nm]	solvent	CF [280nm]	CF [260nm]	page
DY-350	353	19,000	432	PBS	0,085	0,257	9
DY-351	338	33,000	437	PBS	0,302	0,405	9
DY-405	400	32,000	423	PBS	0,772	0,252	11
DY-410	405	34,000	460	PBS	0,227	0,270	11
DY-415	418	40,000	463	EtOH	0,217	0,315	12
DY-430	444	37,000	487	PBS	0,278	0,456	12
DY-431	442	35,000	496	PBS	0,247	0,479	13
DY-478	478	90,000	518	EtOH	0,186	0,216	13
DY-490	491	73,000	515	PBS	0,113	0,198	14
DY-495	494	78,000	521	pH9 buffer	0,178	0,261	14
DY-505	507	80,000	528	EtOH	0,165	0,236	15
DY-530	533	100,000	554	PBS	0,148	0,295	17
DY-546	549	100,000	569	PBS	0,213	0,266	17
DY-547P1	551	150,000	565	PBS	0,075	0,029	18
DY-548P1	554	150,000	568	PBS	0,074	0,028	18
DY-549P1	556	150,000	570	PBS	0,070	0,035	19
DY-550	558	120,000	577	EtOH	0,044	0,147	19
DY-554	544	100,000	570	EtOH	0,233	0,383	20
DY-555	547	100,000	573	EtOH	0,185	0,341	20
DY-556	548	100,000	574	EtOH	0,164	0,318	21
DY-557	556	100,000	576	EtOH	0,175	0,331	21
DY-560	560	120,000	578	EtOH	0,189	0,337	22
DY-580	572	100,000	589	EtOH	0,151	0,245	22
DY-585	584	120,000	604	EtOH	0,192	0,509	23
DY-590	581	120,000	600	EtOH	0,170	0,224	25
DY-591	581	120,000	598	EtOH	0,143	0,189	25
DY-594	594	92,000	615	PBS	0,622	0,347	26
DY-605	600	110,000	624	PBS	0,552	0,237	26
DY-610	610	80,000	632	EtOH	0,210	0,200	27
DY-615	623	200,000	643	EtOH	0,058	0,070	27
DY-630	638	200,000	658	EtOH	0,092	0,092	29
DY-631	637	200,000	657	EtOH	0,312	0,259	29
DY-632	636	200,000	658	EtOH	0,108	0,097	30
DY-633	638	200,000	658	EtOH	0,088	0,086	30
DY-634	636	200,000	657	EtOH	0,095	0,075	31
DY-635	648	200,000	670	EtOH	0,181	0,154	31
DY-636	647	200,000	670	EtOH	0,084	0,045	32
DY-641	624	80,000	654	EtOH	0,262	0,221	32
DY-643	626	80,000	646	EtOH	0,238	0,227	33
DY-647P1	648	250,000	666	PBS	0,024	0,019	33
DY-648P1	651	250,000	669	PBS	0,024	0,021	34
DY-649P1	654	250,000	672	PBS	0,025	0,018	34
DY-650	656	220,000	676	EtOH	0,058	0,113	35
DY-651	655	220,000	677	EtOH	0,052	0,101	35
DY-652	653	220,000	676	EtOH	0,060	0,110	36
DY-654	653	220,000	677	EtOH	0,067	0,145	36
DY-660P1	663	200,000	682	PBS	0,070	0,071	37
DY-675	675	180,000	699	EtOH	0,080	0,151	39
DY-676	675	180,000	699	EtOH	0,078	0,147	39
DY-677	674	180,000	698	EtOH	0,087	0,166	40
DY-678	674	180,000	694	EtOH	0,100	0,179	40
DY-679P1	679	200,000	697	PBS	0,115	0,107	41
DY-680	691	140,000	709	EtOH	0,099	0,142	41
DY-681	692	140,000	709	EtOH	0,089	0,125	42
DY-682	692	140,000	709	EtOH	0,085	0,124	42
DY-684	685	140,000	699	EtOH	0,121	0,147	43

Table with spectral characteristics of DY-Labels

label	absorption maximum* [nm]	molar absorbance* [$l \cdot mol^{-1} \cdot cm^{-1}$]	emission maximum* [nm]	solvent	CF [280nm]	CF [260nm]	page
DY-700	707	140,000	728	EtOH	0,103	0,172	45
DY-701	709	140,000	730	EtOH	0,127	0,197	45
DY-702	709	140,000	728	EtOH	0,076	0,128	46
DY-703	705	140,000	721	EtOH	0,096	0,140	46
DY-704	706	140,000	721	EtOH	0,109	0,135	47
DY-705	710	140,000	732	EtOH	0,072	0,123	47
DY-706	710	140,000	733	EtOH	0,077	0,124	48
DY-720	726	140,000	744	EtOH	0,095	0,160	48
DY-730	734	240,000	755	EtOH	0,047	0,054	49
DY-731	736	240,000	755	EtOH	0,052	0,057	49
DY-732	735	240,000	756	EtOH	0,064	0,071	50
DY-734	733	240,000	755	EtOH	0,045	0,051	50
DY-736	743	240,000	764	EtOH	0,071	0,051	51
DY-747P1	747	240,000	769	PBS	0,037	0,026	51
DY-749P1	747	240,000	769	PBS	0,037	0,026	52
DY-750	751	270,000	774	EtOH	0,030	0,087	52
DY-751	752	270,000	772	EtOH	0,029	0,088	53
DY-752	750	270,000	771	EtOH	0,028	0,080	53
DY-754	748	270,000	771	EtOH	0,035	0,106	54
DY-765	765	130,000	785	EtOH	0,218	0,304	54
DY-776	772	240,000	787	EtOH	0,074	0,144	55
DY-777	770	240,000	788	EtOH	0,070	0,138	55
DY-778	767	240,000	787	EtOH	0,081	0,149	56
DY-780	783	170,000	799	EtOH	0,079	0,082	56
DY-781	784	170,000	796	EtOH	0,075	0,074	57
DY-782	785	170,000	794	EtOH	0,096	0,090	57
DY-784	779	170,000	780	EtOH	0,102	0,110	58
DY-800	777	280,000	791	EtOH	0,045	0,034	58
DY-805	800	150,000	824	EtOH	0,141	0,107	59
DY-820	823	200,000	843	EtOH	0,090	0,064	59
DY-831	844	220,000	875	EtOH	0,061	0,051	60
DY-845	847	160,000	876	EtOH	0,073	0,193	60
DY-865	863	190,000	896	EtOH	0,107	0,211	61
DY-350XL	347	17,000	608	PBS	0,477	0,401	63
DY-360XL	362	27,000	459	PBS	0,397	0,551	63
DY-370XL	368	17,000	475	PBS	0,460	0,733	64
DY-375XL	375	20,000	543	PBS	0,125	0,209	64
DY-376XL	387	25,400	549	PBS	0,507	0,575	65
DY-380XL	382	22,000	510	PBS	0,151	0,242	65
DY-395XL	397	22,000	572	PBS	0,210	0,541	66
DY-396XL	394	26,600	572	PBS	0,505	0,562	66
DY-475XL	494	90,000	512	EtOH	0,083	0,145	67
DY-480XL	504	50,000	631	EtOH	0,083	0,185	67
DY-481XL	521	50,000	649	EtOH	0,142	0,301	68
DY-485XL	488	50,000	559	EtOH	0,137	0,188	68
DY-494XL	497	50,000	639	EtOH	0,201	0,374	69
DY-510XL	512	50,000	590	EtOH	0,174	0,292	69
DY-511XL	510	50,000	595	PBS	0,230	0,309	70
DY-520XL	522	50,000	662	EtOH	0,217	0,425	70
DY-521XL	526	50,000	666	EtOH	0,184	0,379	71

Chemical structures in the supplement.

* The given values can change depending on the environment of the label (nature of conjugate and solvent).

Table with spectral characteristics of DY-Labels

label	absorption maximum* [nm]	molar absorbance* [l · mol^{-1} · cm^{-1}]	emission maximum* [nm]	solvent	CF [280nm]	CF [260nm]	page
DYQ-1	543	44,000	–	PBS	0,252	0,251	73
DYQ-2	641	105,000	–	PBS	0,126	0,183	73
DYQ-3	683	80,000	–	PBS	0,161	0,544	74
DYQ-4	766	180,000	–	PBS	n.d.	n.d.	74
DYQ-425	429	24,500	–	PBS	0,387	0,497	75
DYQ-505	506	44,000	–	PBS	0,277	0,281	75
DYQ-660	660	140,000	–	EtOH	n.d.	n.d.	76
DYQ-661	662	140,000	–	EtOH	0,080	0,052	76
DYQ-700	691	58,000	–	PBS	n.d.	n.d.	77
DY-485XLP4	478	50,000	557	EtOH	0,130	0,157	79
DY-520XLP4	514	50,000	665	EtOH	n.d.	n.d.	79
DY-547P4	557	150,000	571	PBS	0,083	0,046	80
DY-631P4	637	200,000	659	EtOH	0,075	0,065	80
DY-647P4	656	250,000	674	PBS	0,350	0,031	81
DY-679P4	684	200,000	703	PBS	0,108	0,097	81
DY-681P4	690	140,000	709	EtOH	0,093	0,129	82
DY-703P4	704	140,000	722	EtOH	0,153	0,225	82
DY-704P4	705	140,000	721	EtOH	0,129	0,163	83
DY-731P4	737	220,000	754	EtOH	0,047	0,051	83
DY-747P4	756	240,000	776	PBS	0,027	0,020	84
DY-781P4	784	170,000	795	EtOH	0,094	0,092	84
DY-800P4	783	250,000	795	PBS	0,041	0,040	85
FatRed	656	95,000	680	EtOH	n.d.	n.d.	87
Stain01	513	120,000	580	EtOH	n.d.	n.d.	87
DY-344IN	387	27,000	549	n.d.	n.d.	n.d.	88
V02-07027	477	70,000	522	EtOH	n.d.	n.d.	89
V02-08078	492	90,000	537	EtOH	n.d.	n.d.	89
V13-01184	481	80,000	526	EtOH	n.d.	n.d.	90
MitoDy-1	485	62,000	558	EtOH	n.d.	n.d.	90
DY-660-SL	665	20,000	–	EtOH	n.d.	n.d.	91
DY-840-S	840	65,000	–	EtOH	n.d.	n.d.	91
DY-660-X	662	80,000	693	Dichloromethane	n.d.	n.d.	92
DY-665-X	670	80,000	690	Dichloromethane	n.d.	n.d.	92

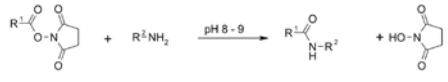
Chemical structures in the supplement.

* The given values can change depending on the environment of the label (nature of conjugate and solvent).

Aminoreactive Dyes

Primary amino groups are natural components of peptides and proteins which consist of amino acids. At least one amino group is positioned at the N-terminus of the peptide chain. Other biomolecules can be modified in such way that an amino group is incorporated without changing its activity or functionality. The most common examples are 5'-aminomodified DNA oligomers and cDNA bearing aminoallyl-dU-units.

There are several functional groups which react with primary amino groups forming a covalent bond between the dye and the amino containing (bio-)molecule under mild conditions not harmful to biologically active compounds. The most common reactive group being the NHS-ester (N-Hydroxysuccinimidyl-ester). At a pH between 8 and 9, the NHS-ester reacts specifically with primary amino groups. Depending on the purity (content of active NHS-ester), quantitative yields can be achieved.

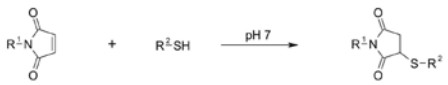


Succinimidyl ester Amide

Dyomics offers further aminoreactive groups too, e.g. TFP-ester (2,3,5,6-Tetrafluorophenyl-ester) or STP-ester (4-Sulfo-2,3,5,6-Tetrafluorophenyl-ester).
At Dyomics, special attention is paid to the activity of our labels. We carefully store and ship our DY-NHS-esters to supply our customers with high quality reagents. If the activity of the label suffered during shipment we replace the label for free.

Maleimides

As well as primary amino groups, thiol groups are preferred targets for fluorescent labels. There are various chemical moieties which form stable chemical bonds with thiol groups, including maleimides and iodoacetamides. The low influence of a neutral thiol-reactive label on the isoelectric point of a protein is an advantage over the labeling of amino groups in proteins and makes differential 2D-gel electrophoresis possible. Maleimides couple to thiol groups under very mild conditions at pH around 7.



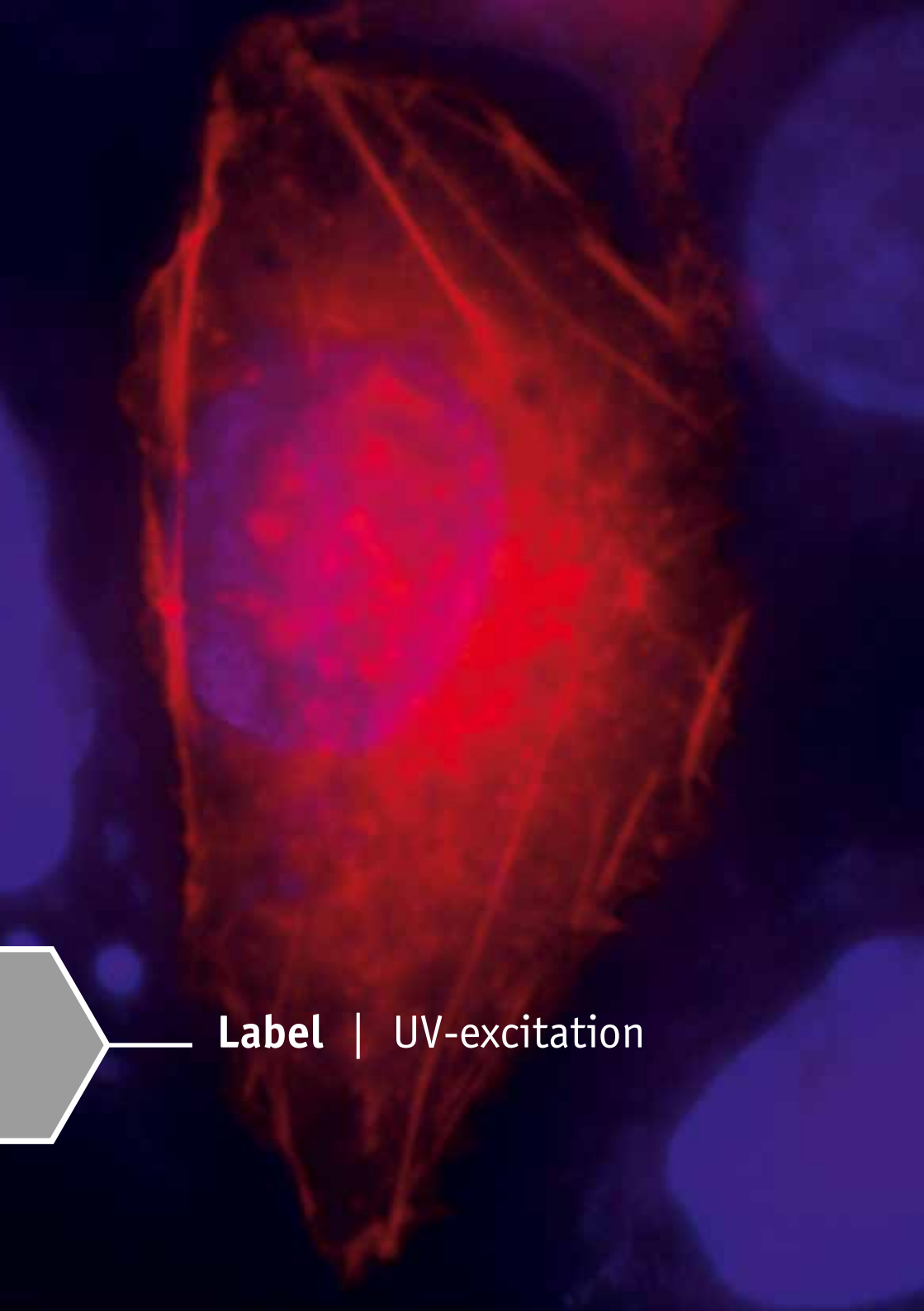
Aminomodified labels

Labels with amino groups can be used for cross coupling to carboxy groups via a mild in-situ activation. Aminomodified labels can also be incorporated into a matrix during polymerization. Coupling reactions should be performed at pH 8.5 or higher since the dyes are delivered as ammonium salts.

Biotinylated labels and others

These modifications can be used to bind to streptavidin or avidin under physiological conditions, making it quite easy to detect the above proteins which are widely used in bioanalytics.

Dyomics offers a wide range of further reactive groups e.g. Hydrazide, Azide, Acetylene, Cadaverine. If you have need for a special modified label, please ask us.

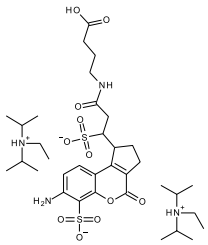


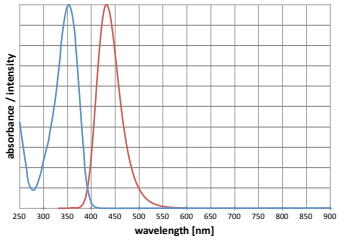
Label | UV-excitation

DY-350

Absorption/emission max.:	353 nm / 432 nm (in PBS)
Molar absorbance:	19,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	777.03	$C_{19}H_{20}N_2O_{11}S_2 * 2\ C_8H_{20}N$	350-00
NHS-ester	874.10	$C_{23}H_{23}N_3O_{13}S_2 * 2\ C_8H_{20}N$	350-01
Amino-derivative	689.86	$C_{21}H_{27}N_4O_{10}S_2 * C_8H_{20}N$	350-02
Maleimide	899.15	$C_{25}H_{26}N_4O_{12}S_2 * 2\ C_8H_{20}N$	350-03



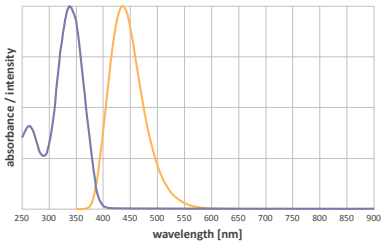


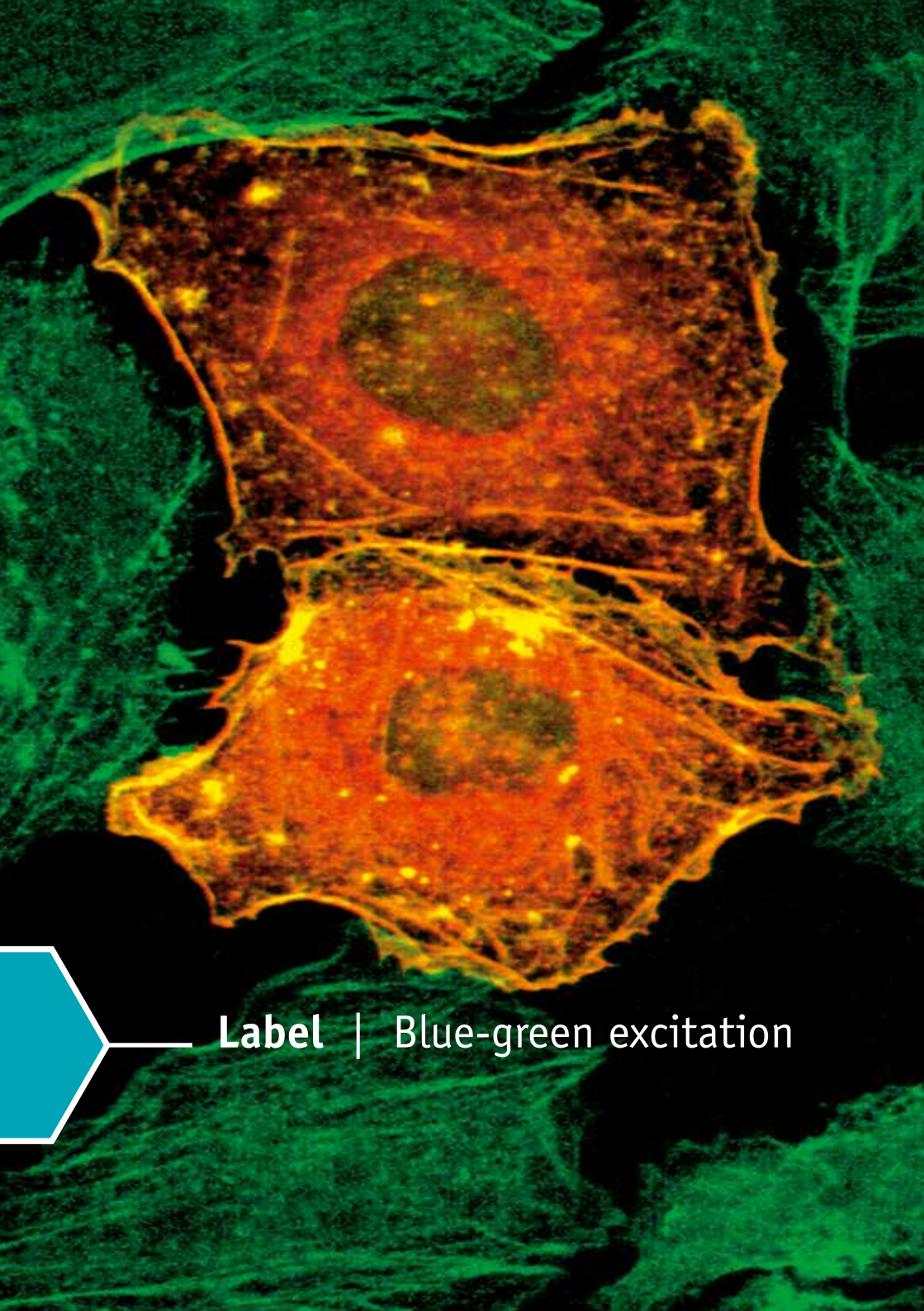
DY-351

Absorption/emission max.:	338 nm / 437 nm (in PBS)
Molar absorbance:	33,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	454.43	$C_{20}H_{19}N_2O_7S * Na$	351-00
NHS-ester	551.50	$C_{24}H_{22}N_3O_9S * Na$	351-01
Amino-derivative	474.53	$C_{22}H_{26}N_4O_6S$	351-02
Maleimide	576.55	$C_{26}H_{25}N_4O_8S * Na$	351-03

Structure on request

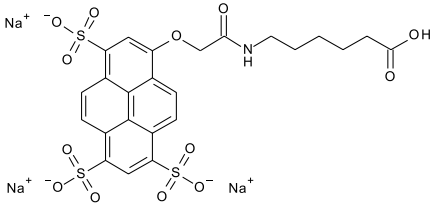


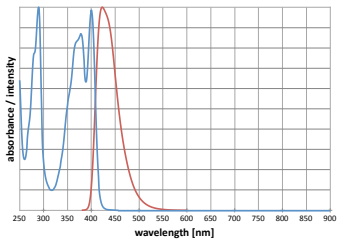

Label | Blue-green excitation

DY-405

Absorption/emission max.:	400 nm / 423 nm (in PBS)
Molar absorbance:	32,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	695.59	$C_{24}H_{20}NO_{13}S_3$ * 3 Na	405-00
NHS-ester	792.66	$C_{28}H_{23}N_2O_{15}S_3$ * 3 Na	405-01
Amino-derivative	715.69	$C_{26}H_{27}N_3O_{12}S_3$ * 2 Na	405-02
Maleimide	817.72	$C_{30}H_{26}N_3O_{14}S_3$ * 3 Na	405-03

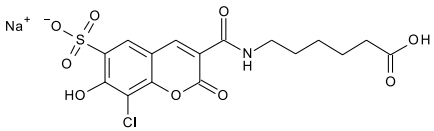


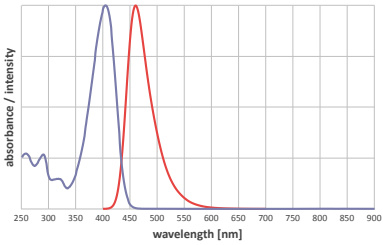


DY-410

Absorption/emission max.:	405 nm / 460 nm (in PBS)
Molar absorbance:	34,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	455.78	$C_{16}H_{15}ClNO_9S$ * Na	410-00
NHS-ester	552.87	$C_{20}H_{18}ClN_2O_{11}S$ * Na	410-01
Amino-derivative	475.90	$C_{18}H_{22}ClN_3O_8S$	410-02
Maleimide	577.92	$C_{22}H_{21}ClN_3O_{10}S$ * Na	410-03

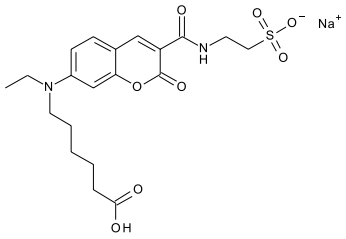


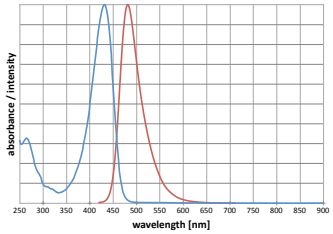


DY-415

Absorption/emission max.:	418 nm / 463 nm (in Ethanol)
Molar absorbance:	40,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	476.48	$C_{20}H_{25}N_2O_8S * Na$	415-00
NHS-ester	573.56	$C_{24}H_{28}N_3O_{10}S * Na$	415-01
Amino-derivative	496.59	$C_{22}H_{32}N_4O_7S$	415-02
Maleimide	598.61	$C_{26}H_{31}N_4O_9S * Na$	415-03

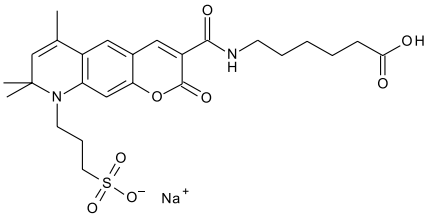


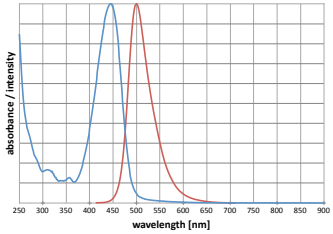


DY-430

Absorption/emission max.:	444 nm / 487 nm (PBS)
Molar absorbance:	37,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	542.58	$C_{25}H_{31}N_2O_8S * Na$	430-00
NHS-ester	639.65	$C_{29}H_{34}N_3O_{10}S * Na$	430-01
Amino-derivative	562.68	$C_{27}H_{38}N_4O_7S$	430-02
Maleimide	664.70	$C_{31}H_{37}N_4O_9S * Na$	430-03

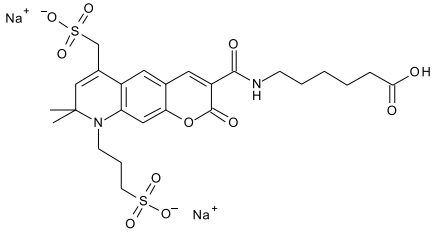


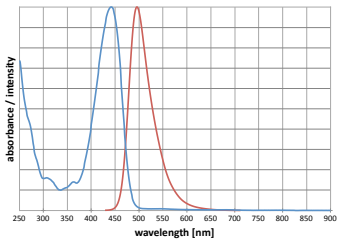


DY-431

Absorption/emission max.:	442 nm / 496 nm (in PBS)
Molar absorbance:	35,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	644.63	$C_{25}H_{30}N_2O_{11}S_2$ * 2 Na	431-00
NHS-ester	741.69	$C_{29}H_{33}N_3O_{13}S_2$ * 2 Na	431-01
Amino-derivative	664.72	$C_{27}H_{37}N_4O_{10}S_2$ * Na	431-02
Maleimide	766.75	$C_{31}H_{36}N_4O_{12}S_2$ * 2 Na	431-03

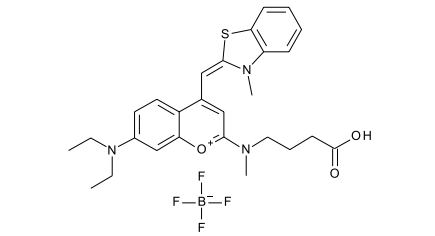


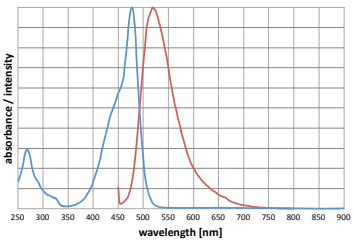


DY-478

Absorption/emission max.:	478 nm / 518 nm (in Ethanol)
Molar absorbance:	90,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	565.43	$C_{27}H_{32}N_3O_3S$ * BF_4	478-00
NHS-ester	662.50	$C_{31}H_{35}N_4O_5S$ * BF_4	478-01
Amino-derivative	592.62	$C_{29}H_{39}N_5O_2S$ * 2 Cl	478-02
Maleimide	687.55	$C_{33}H_{38}N_5O_4S$ * BF_4	478-03



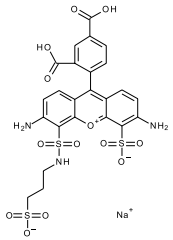


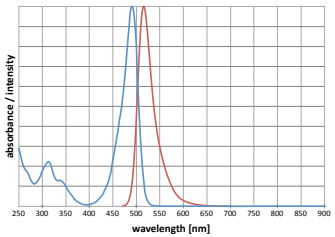
DY-490

Absorption/emission max.:	491 nm / 515 nm (in PBS)
Molar absorbance:	73,000 $M^{-1}cm^{-1}$

Comments:
- alternative to AlexaFluor™ 488
- soluble in water, methanol
- bright green, pH-stable emission
- suitable for flow cytometry, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	677.61	$C_{24}H_{20}N_3O_{13}S_3$ * Na	490-00
NHS-ester	1011.20	$C_{28}H_{22}N_4O_{15}S_3$ * 2 $C_8H_{20}N$	490-01
Amino-derivative	925.78	$C_{26}H_{29}N_5O_{12}S_3$ * 2 $C_2F_3O_2$	490-02
Maleimide	799.74	$C_{30}H_{26}N_5O_{14}S_3$ * Na	490-03



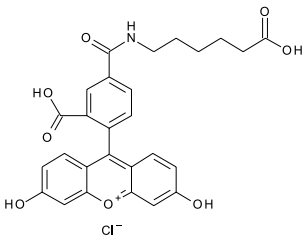


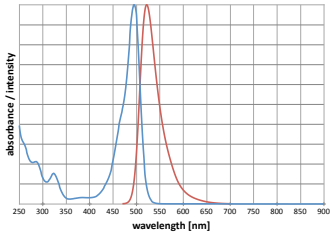
DY-495

Absorption/emission max.:	494 nm / 521 nm (in pH9-buffer)
Molar absorbance:	78,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	525.94	$C_{27}H_{24}NO_8$ * Cl	495-00
NHS-ester	623.02	$C_{31}H_{27}N_2O_{10}$ * Cl	495-01
Amino-derivative	604.49	$C_{29}H_{31}N_3O_7$ * 2 Cl	495-02
Maleimide	725.62	$C_{33}H_{30}N_3O_9$ * $C_2F_3O_2$	495-03



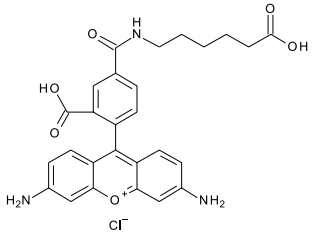


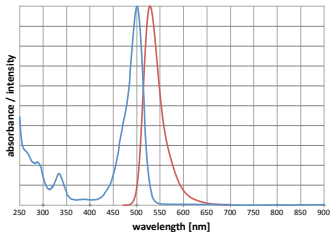
DY-505

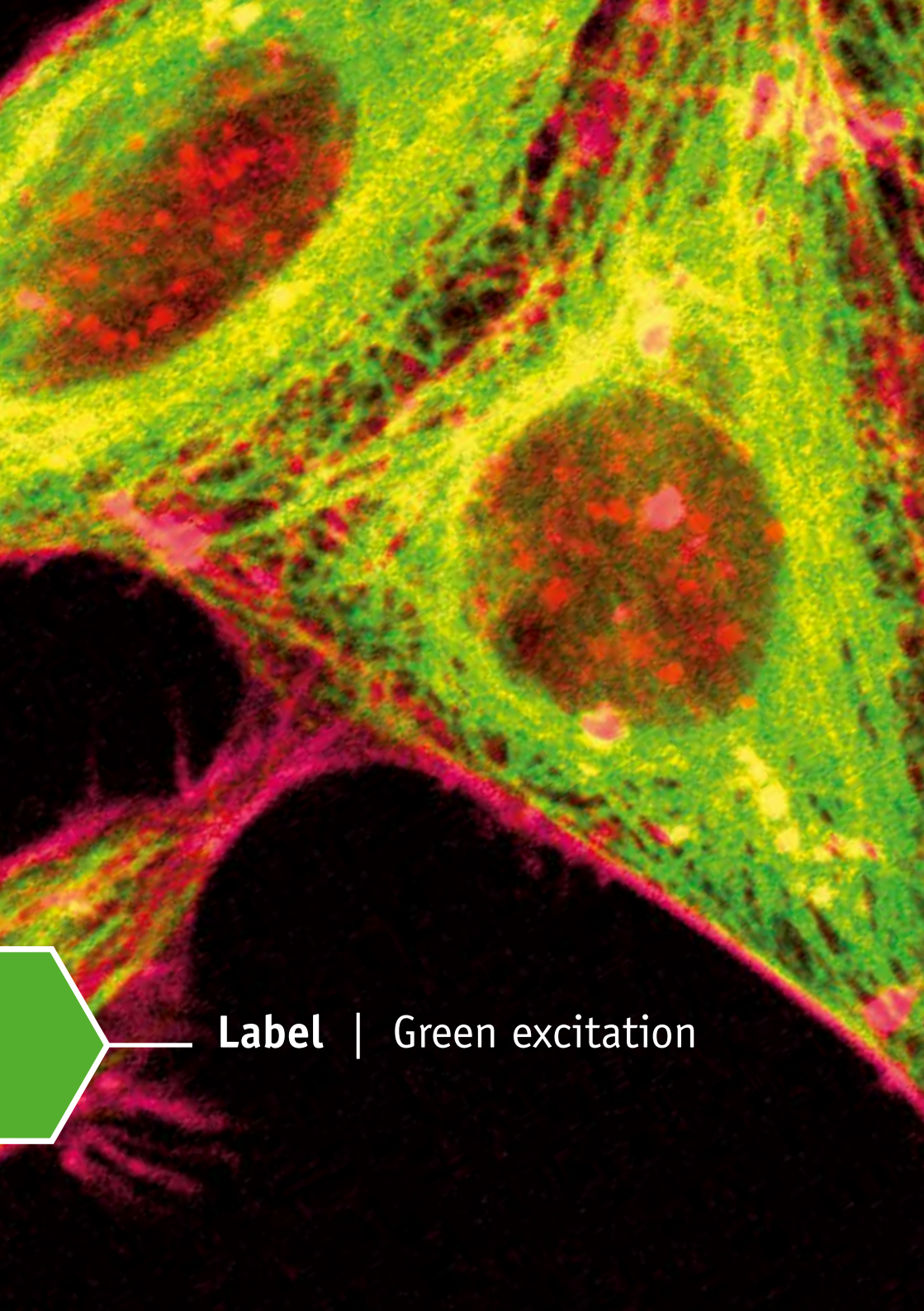
Absorption/emission max.:	507 nm / 528 nm (in Ethanol)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	523.97	$C_{27}H_{26}N_3O_6 * Cl$	505-00
NHS-ester	621.05	$C_{31}H_{29}N_4O_8 * Cl$	505-01
Amino-derivative	602.53	$C_{29}H_{33}N_5O_5 * 2\ Cl$	505-02
Maleimide	723.67	$C_{33}H_{32}N_5O_7 * C_2F_3O_2$	505-03



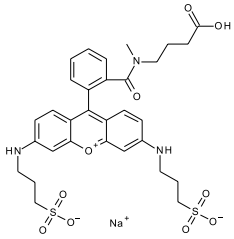


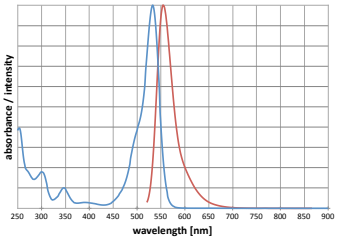

Label | Green excitation

DY-530

Absorption/emission max.:	533 nm / 554 nm (in PBS)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	695.75	$C_{31}H_{34}N_3O_{10}S_2$ * Na	530-00
NHS-ester	792.82	$C_{35}H_{37}N_4O_{12}S_2$ * Na	530-01
Amino-derivative	715.85	$C_{33}H_{41}N_5O_9S_2$	530-02
Maleimide	817.88	$C_{37}H_{40}N_5O_{11}S_2$ * Na	530-03

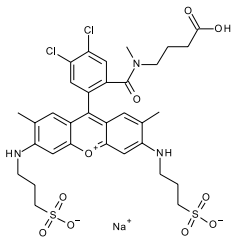


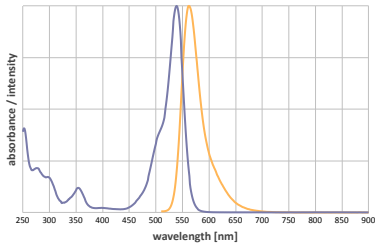


DY-546

Absorption/emission max.:	549 nm / 569 nm (in PBS)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	792.68	$C_{33}H_{36}Cl_2N_3O_{10}S_2$ * Na	546-00
NHS-ester	889.75	$C_{37}H_{39}Cl_2N_4O_{12}S_2$ * Na	546-01
Amino-derivative	812.78	$C_{35}H_{43}Cl_2N_5O_9S_2$	546-02
Maleimide	914.80	$C_{39}H_{42}Cl_2N_5O_{11}S_2$ * Na	546-03

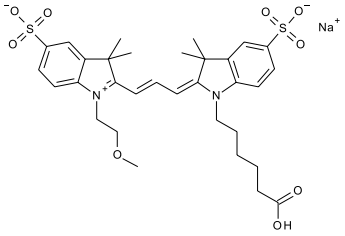


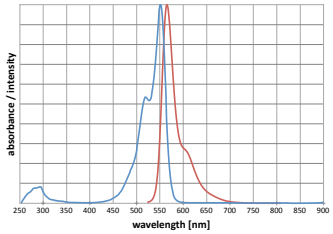


DY-547P1

Absorption/emission max.:	551 nm / 565 nm (in PBS)
Molar absorbance:	150,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	682.78	$C_{32}H_{39}N_2O_9S_2$ * Na	547P1-00
NHS-ester	779.85	$C_{36}H_{42}N_3O_{11}S_2$ * Na	547P1-01
Amino-derivative	702.88	$C_{34}H_{46}N_4O_8S_2$	547P1-02
Maleimide	804.90	$C_{38}H_{45}N_4O_{10}S_2$ * Na	547P1-03

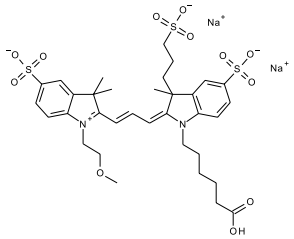


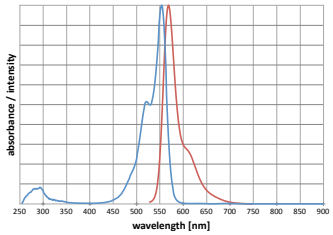


DY-548P1

Absorption/emission max.:	554 nm / 568 nm (in PBS)
Molar absorbance:	150,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	812.88	$C_{34}H_{42}N_2O_{12}S_3$ * 2 Na	548P1-00
NHS-ester	909.95	$C_{38}H_{45}N_3O_{14}S3$ * 2 Na	548P1-01
Amino-derivative	832.98	$C_{36}H_{49}N_4O_{11}S3$ * Na	548P1-02
Maleimide	935.00	$C_{40}H_{48}N_4O_{13}S_3$ * 2 Na	548P1-03

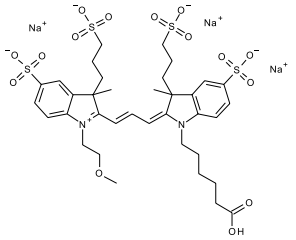


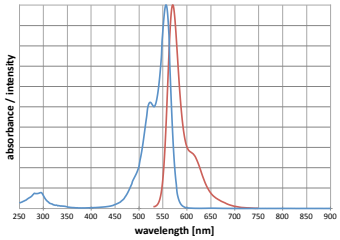


DY-549P1

Absorption/emission max.:	556 nm / 570 nm (in PBS)
Molar absorbance:	150,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	942.99	$C_{36}H_{45}N_2O_{15}S_4$ * 3 Na	549P1-00
NHS-ester	1040.06	$C_{40}H_{48}N_3O_{17}S_4$ * 3 Na	549P1-01
Amino-derivative	963.09	$C_{38}H_{52}N_4O_{14}S_4$ * 2 Na	549P1-02
Maleimide	1065.12	$C_{42}H_{51}N_4O_{16}S_4$ * 3 Na	549P1-03

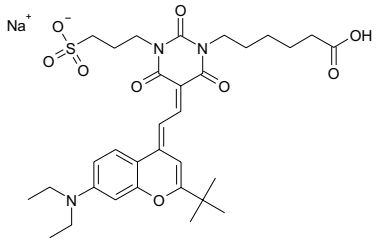


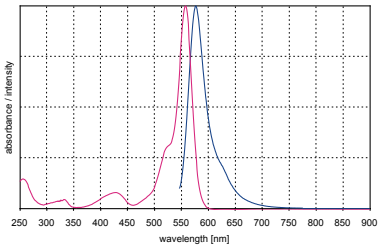


DY-550

Absorption/emission max.:	558 nm / 577 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	667.76	$C_{32}H_{42}N_3O_9S$ * Na	550-00
NHS-ester	764.83	$C_{36}H_{45}N_4O_{11}S$ * Na	550-01
Amino-derivative	687.86	$C_{34}H_{49}N_5O_8S$	550-02
Maleimide	789.89	$C_{38}H_{48}N_5O_{10}S$ * Na	550-03



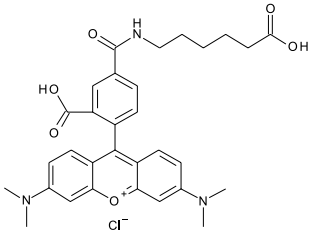


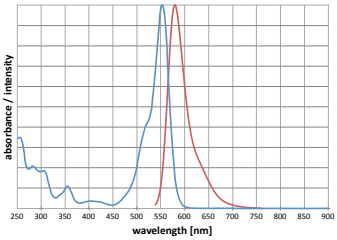
DY-554

Absorption/emission max.:	544 nm / 570 nm (in Ethanol)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	580.08	$C_{31}H_{34}N_3O_6$ * Cl	554-00
NHS-ester	677.16	$C_{35}H_{37}N_4O_8$ * Cl	554-01
Amino-derivative	658.62	$C_{33}H_{41}N_5O_5$ * 2 Cl	554-02
Maleimide	779.78	$C_{37}H_{40}N_5O_7$ * $C_2F_3O_2$	554-03



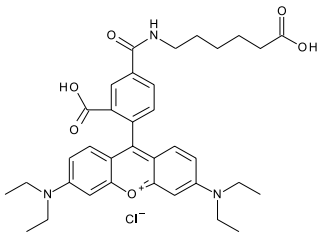


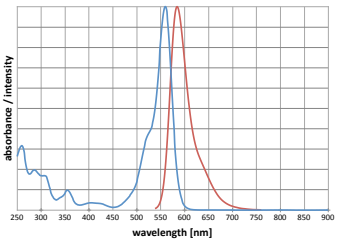
DY-555

Absorption/emission max.:	547 nm / 573 nm (in Ethanol)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	636.19	$C_{35}H_{42}N_3O_6$ * Cl	555-00
NHS-ester	733.27	$C_{39}H_{45}N_4O_8$ * Cl	555-01
Amino-derivative	714.72	$C_{37}H_{49}N_5O_5$ * 2 Cl	555-02
Maleimide	721.86	$C_{41}H_{47}N_5O_7$	555-03



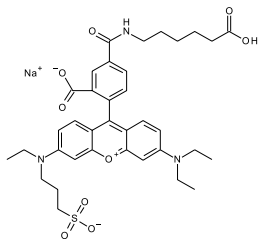


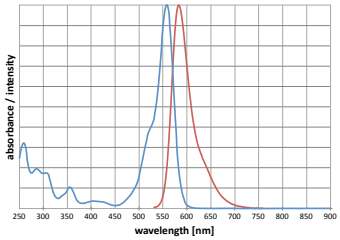
DY-556

Absorption/emission max.:	548 nm / 574 nm (in Ethanol)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$

Comments:
– soluble in methanol, ethanol, DMF, DMSO
– bright solid state emission
– suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	715.80	$C_{36}H_{42}N_3O_8S * Na$	556-00
NHS-ester	812.88	$C_{40}H_{45}N_4O_{11}S * Na$	556-01
Amino-derivative	735.91	$C_{38}H_{49}N_5O_8S$	556-02
Maleimide	837.93	$C_{42}H_{48}N_5O_{10}S * Na$	556-03



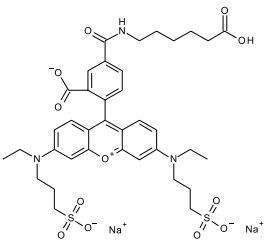


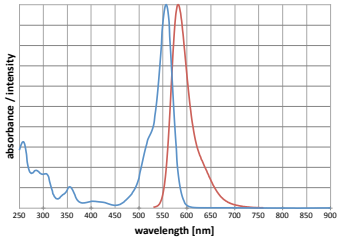
DY-557

Absorption/emission max.:	556 nm / 576 nm (in Ethanol)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$

Comments:
– soluble in water, methanol, ethanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	831.86	$C_{37}H_{43}N_3O_{12}S_2 * 2\ Na$	557-00
NHS-ester	928.93	$C_{41}H_{46}N_4O_{14}S_2 * 2\ Na$	557-01
Amino-derivative	851.96	$C_{39}H_{50}N_5O_{11}S_2 * Na$	557-02
Maleimide	953.98	$C_{43}H_{49}N_5O_{13}S_2 * 2\ Na$	557-03



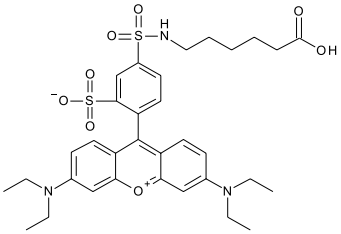


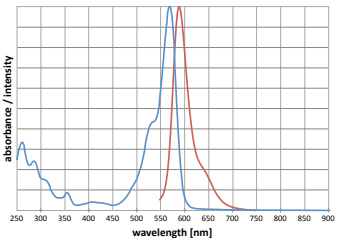
DY-560

Absorption/emission max.:	560 nm / 578 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	671.84	$C_{33}H_{41}N_3O_8S_2$	560-00
NHS-ester	768.91	$C_{37}H_{44}N_4O_{10}S_2$	560-01
Amino-derivative	750.38	$C_{35}H_{48}N_5O_7S_2 * Cl$	560-02
Maleimide	793.97	$C_{39}H_{47}N_5O_9S_2$	560-03



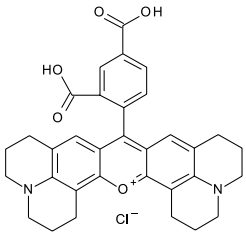


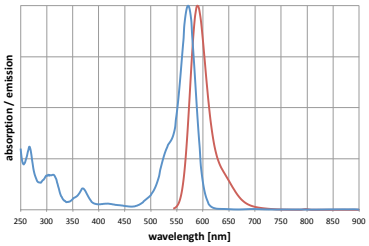
DY-580

Absorption/emission max.:	572 nm / 589 nm (in Ethanol)
Molar absorbance:	100,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	571.06	$C_{33}H_{31}N_2O_5 * Cl$	580-00
NHS-ester	745.70	$C_{37}H_{34}N_3O_7 * C_2F_3O_2$	580-01
Amino-derivative	649.60	$C_{35}H_{38}N_4O_4 * 2\ Cl$	580-02
Maleimide	770.75	$C_{39}H_{37}N_4O_6 * C_2F_3O_2$	580-03

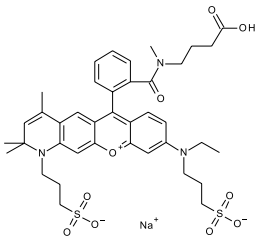


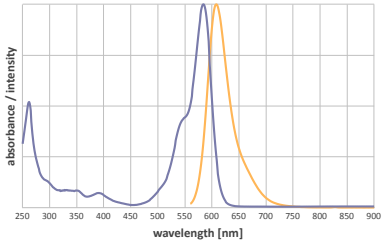


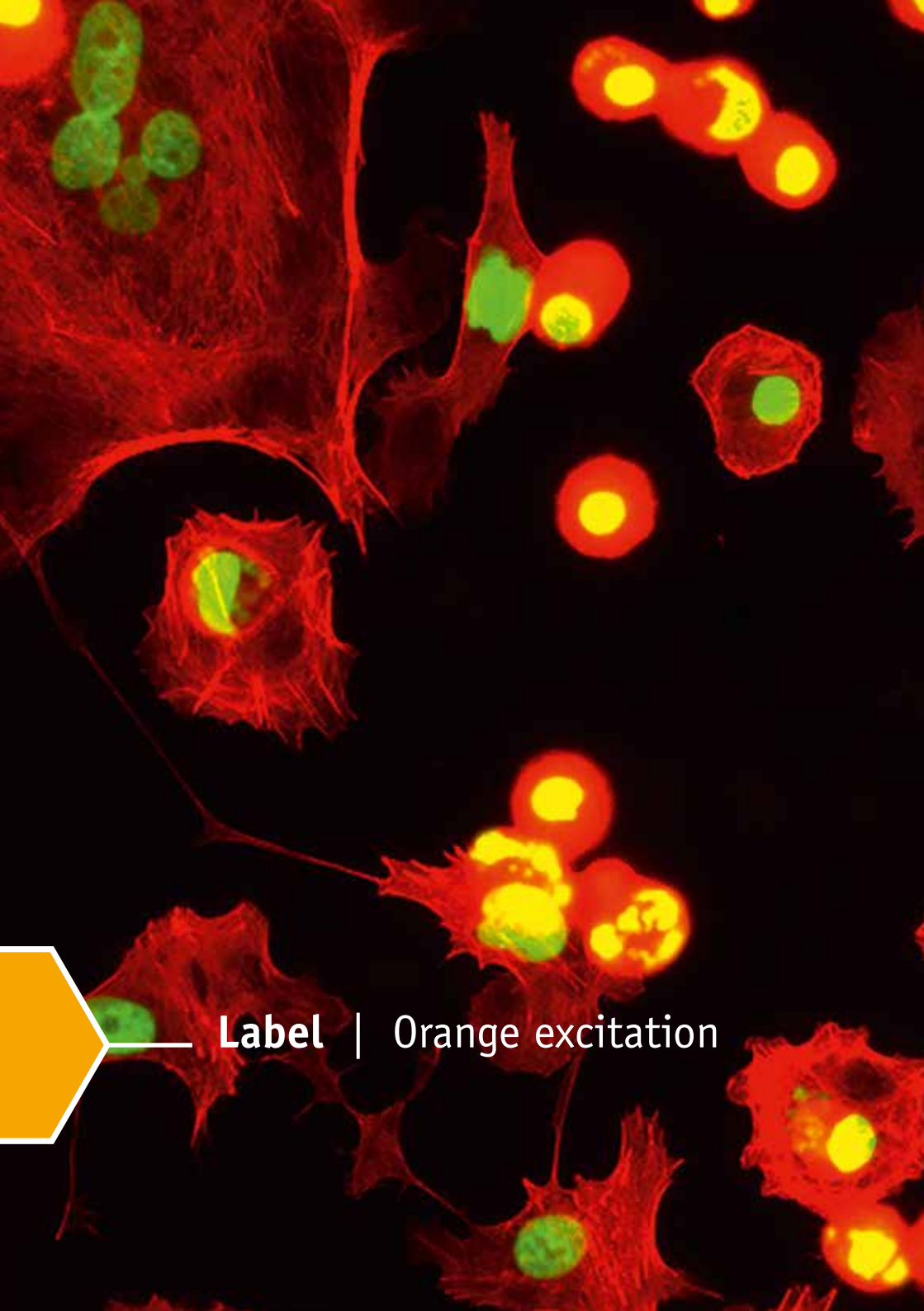
DY-585

Absorption/emission max.:	584 nm / 604 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	803.92	$C_{39}H_{46}N_3O_{10}S_2$ * Na	585-00
NHS-ester	900.99	$C_{43}H_{49}N_4O_{12}S_2$ * Na	585-01
Amino-derivative	824.02	$C_{41}H_{53}N_5O_9S_2$	585-02
Maleimide	904.06	$C_{45}H_{53}N_5O_{11}S_2$	585-03





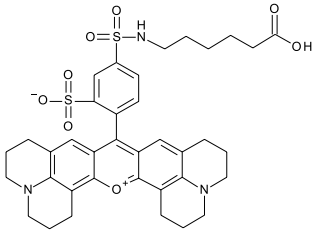

Label | Orange excitation

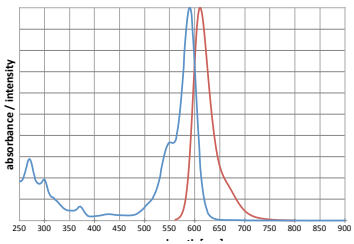
DY-590

Absorption/emission max.:	581 nm / 600 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	719.88	$C_{37}H_{41}N_3O_8S_2$	590-00
NHS-ester	816.96	$C_{41}H_{44}N_4O_{10}S_2$	590-01
Amino-derivative	798.42	$C_{39}H_{48}N_5O_7S_2 * Cl$	590-02
Maleimide	842.01	$C_{43}H_{47}N_5O_9S_2$	590-03



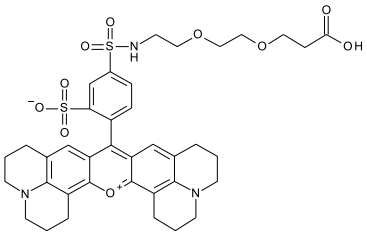


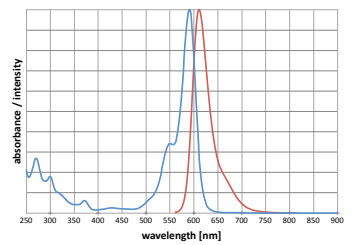
DY-591

Absorption/emission max.:	581 nm / 598 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$

Comments:
- more hydrophilic than DY-590
- similar to Texas Red™

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	765.91	$C_{38}H_{43}N_3O_{10}S_2$	591-00
NHS-ester	862.98	$C_{42}H_{46}N_4O_{12}S_2$	591-01
Amino-derivative	844.45	$C_{40}H_{50}N_5O_9S_2 * Cl$	591-02
Maleimide	888.04	$C_{44}H_{49}N_5O_{11}S_2$	591-03

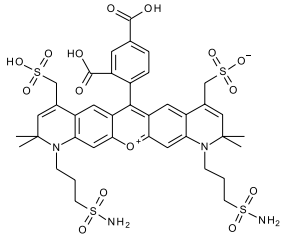


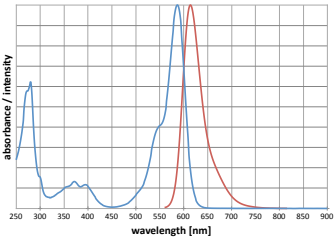


DY-594

Absorption/emission max.:	594 nm / 615 nm (in PBS)
Molar absorbance:	92,000 $M^{-1}cm^{-1}$
Comments: – similar to AlexaFluor™ 594	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	937.06	$C_{39}H_{44}N_4O_{15}S_4$	594-00
NHS-ester	1078.10	$C_{43}H_{45}N_5O_{17}S_4$ * 2 Na	594-01
Amino-derivative	979.14	$C_{41}H_{50}N_6O_{14}S_4$	594-02
Maleimide	1059.19	$C_{45}H_{50}N_6O_{16}S_4$	594-03

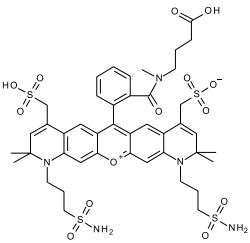


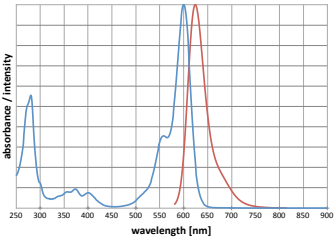


DY-605

Absorption/emission max.:	600 nm / 624 nm (in PBS)
Molar absorbance:	110,000 $M^{-1}cm^{-1}$
Comments: – hydrophilic dye	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	992.18	$C_{43}H_{53}N_5O_{14}S_4$	605-00
NHS-ester	1111.22	$C_{47}H_{55}N_6O_{16}S_4$ * Na	605-01
Amino-derivative	1034.25	$C_{45}H_{59}N_7O_{13}S_4$	605-02
Maleimide	1136.27	$C_{49}H_{58}N_7O_{15}S_4$ * Na	605-03



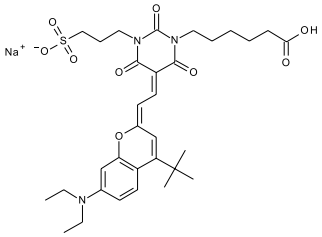


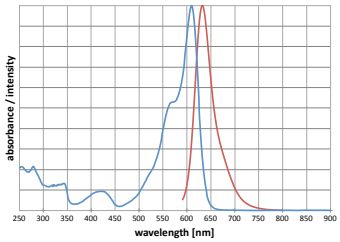
DY-610

Absorption/emission max.:	610 nm / 632 nm (in Ethanol)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	667.76	$C_{32}H_{42}N_3O_8S * Na$	610-00
NHS-ester	764.82	$C_{36}H_{45}N_4O_{11}S * Na$	610-01
Amino-derivative	687.86	$C_{34}H_{49}N_5O_8S$	610-02
Maleimide	789.89	$C_{38}H_{48}N_5O_{10}S * Na$	610-03



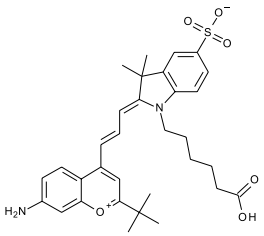


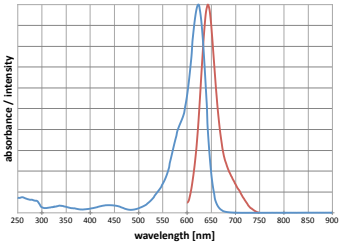
DY-615

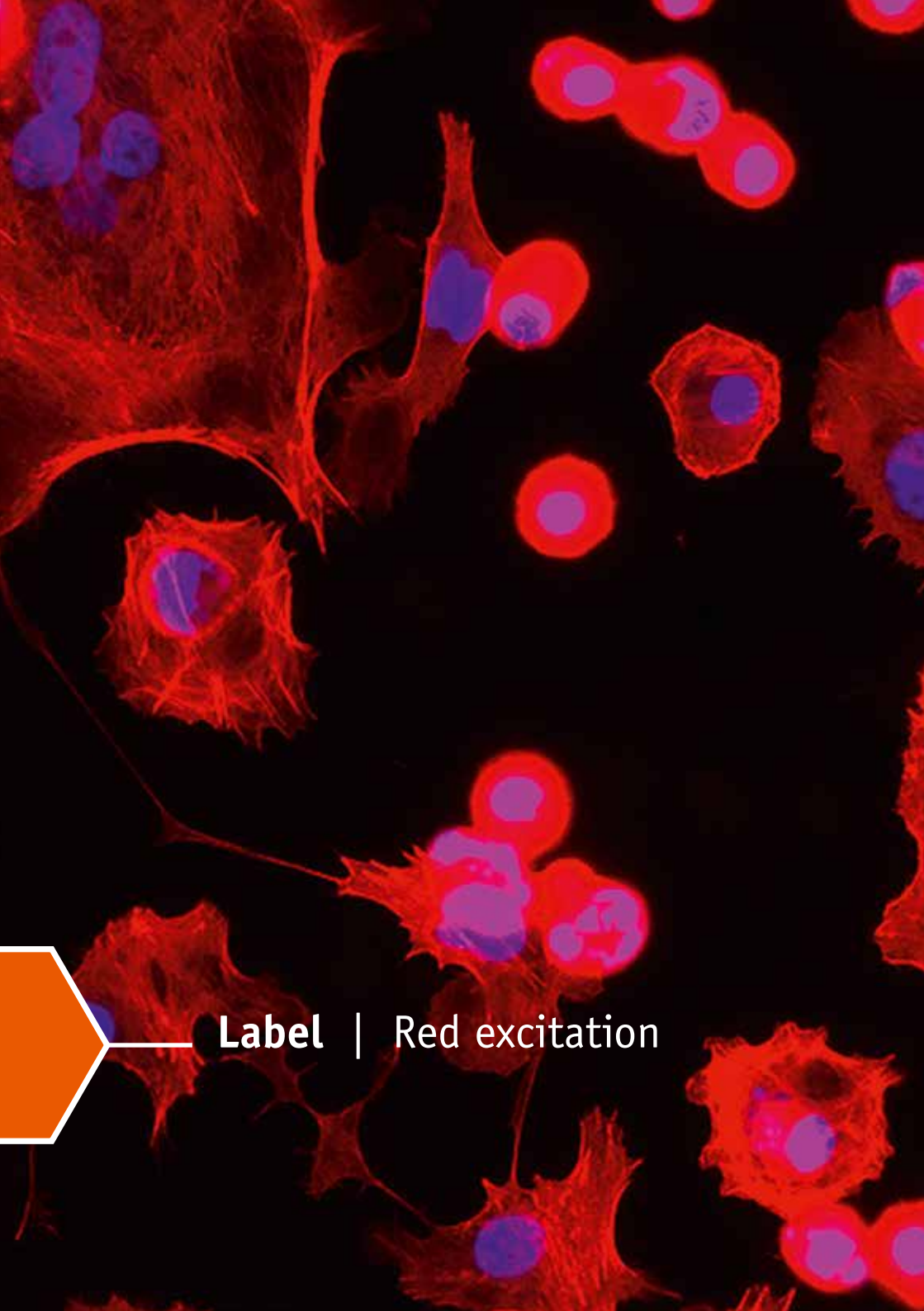
Absorption/emission max.:	623 nm / 643 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	578.73	$C_{32}H_{38}N_2O_6S$	615-00
NHS-ester	675.80	$C_{36}H_{41}N_3O_8S$	615-01
Amino-derivative	734.83	$C_{34}H_{45}N_4O_5S * C_2F_3O_2$	615-02
Maleimide	700.86	$C_{38}H_{44}N_4O_7S$	615-03







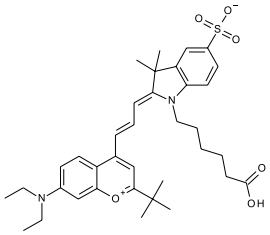
Label | Red excitation

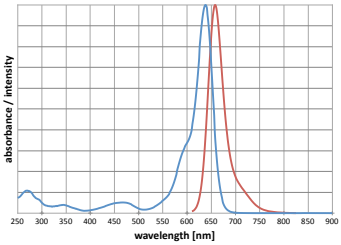
DY-630

Absorption/emission max.:	638 nm / 658 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	634.84	$C_{36}H_{46}N_2O_6S$	630-00
NHS-ester	731.92	$C_{40}H_{49}N_3O_8S$	630-01
Amino-derivative	790.93	$C_{38}H_{53}N_4O_5S * C_2F_3O_2$	630-02
Maleimide	756.97	$C_{42}H_{52}N_4O_7S$	630-03



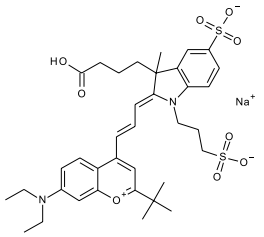


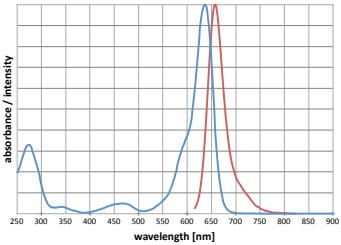
DY-631

Absorption/emission max.:	637 nm / 657 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	736.88	$C_{36}H_{45}N_2O_9S_2 * Na$	631-00
NHS-ester	833.95	$C_{40}H_{48}N_3O_{11}S_2 * Na$	631-01
Amino-derivative	756.99	$C_{38}H_{52}N_4O_8S_2$	631-02
Maleimide	859.01	$C_{42}H_{51}N_4O_{10}S_2 * Na$	631-03



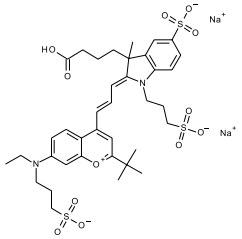


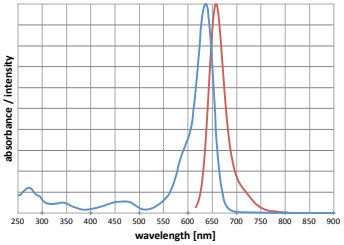
DY-632

Absorption/emission max.:	636 nm / 658 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	852.96	$C_{37}H_{46}N_2O_{12}S_3$ * 2 Na	632-00
NHS-ester	950.03	$C_{41}H_{49}N_3O_{14}S_3$ * 2 Na	632-01
Amino-derivative	873.05	$C_{39}H_{53}N_4O_{11}S_3$ * Na	632-02
Maleimide	975.08	$C_{43}H_{52}N_4O_{13}S_3$ * 2 Na	632-03



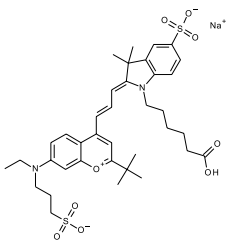


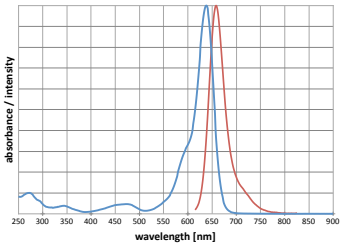
DY-633

Absorption/emission max.:	638 nm / 658 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	750.91	$C_{37}H_{47}N_2O_9S_2$ * Na	633-00
NHS-ester	847.98	$C_{41}H_{50}N_3O_{11}S_2$ * Na	633-01
Amino-derivative	771.02	$C_{39}H_{54}N_4O_8S_2$	633-02
Maleimide	873.04	$C_{43}H_{53}N_4O_{10}S_2$ * Na	633-03



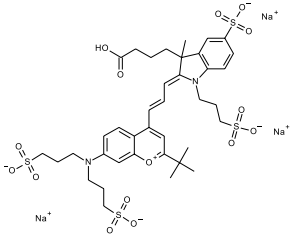


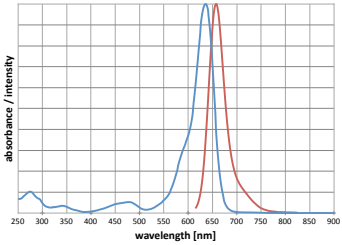
DY-634

Absorption/emission max.:	636 nm / 657 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	969.03	$C_{38}H_{47}N_2O_{15}S_4$ * 3 Na	634-00
NHS-ester	1066.10	$C_{42}H_{50}N_3O_{17}S_4$ * 3 Na	634-01
Amino-derivative	989.12	$C_{40}H_{54}N_4O_{14}S_4$ * 2 Na	634-02
Maleimide	1091.16	$C_{44}H_{53}N_4O_{16}S_4$ * 3 Na	634-03



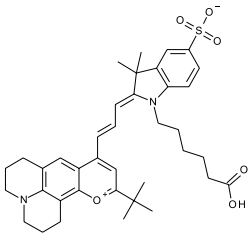


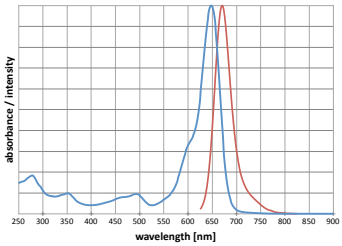
DY-635

Absorption/emission max.:	648 nm / 670 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	658.86	$C_{38}H_{46}N_2O_6S$	635-00
NHS-ester	755.93	$C_{42}H_{49}N_3O_8S$	635-01
Amino-derivative	737.41	$C_{40}H_{53}N_4O_5S$ * Cl	635-02
Maleimide	780.99	$C_{44}H_{52}N_4O_7S$	635-03



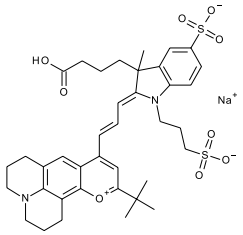


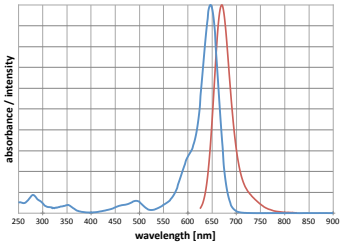
DY-636

Absorption/emission max.:	647 nm / 670 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	760.91	$C_{38}H_{45}N_2O_9S_2$ * Na	636-00
NHS-ester	857.98	$C_{42}H_{48}N_3O_{11}S_2$ * Na	636-01
Amino-derivative	781.01	$C_{40}H_{52}N_4O_8S_2$	636-02
Maleimide	883.04	$C_{44}H_{51}N_4O_{10}S_2$ * Na	636-03



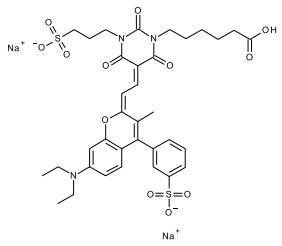


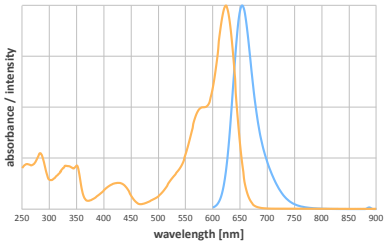
DY-641

Absorption/emission max.:	624 nm / 654 nm (in Ethanol)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, ethanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	803.81	$C_{35}H_{39}N_3O_{12}S_2$ * 2 Na	641-00
NHS-ester	900.88	$C_{39}H_{42}N_4O_{14}S_2$ * 2 Na	641-01
Amino-derivative	823.91	$C_{37}H_{46}N_5O_{11}S_2$ * Na	641-02
Maleimide	925.93	$C_{41}H_{45}N_5O_{13}S_2$ * 2 Na	641-03

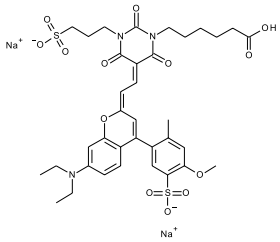


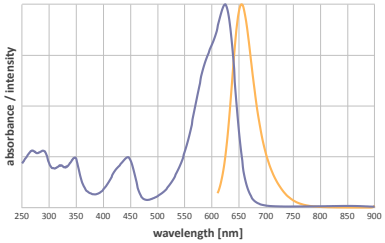


DY-643

Absorption/emission max.:	626 nm / 646 nm (in Ethanol)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	833.83	$C_{36}H_{41}N_3O_{13}S_2$ * 2 Na	643-00
NHS-ester	930.90	$C_{40}H_{44}N_4O_{15}S_2$ * 2 Na	643-01
Amino-derivative	853.93	$C_{38}H_{48}N_5O_{12}S_2$ * Na	643-02
Maleimide	955.96	$C_{42}H_{47}N_5O_{14}S_2$ * 2 Na	643-03

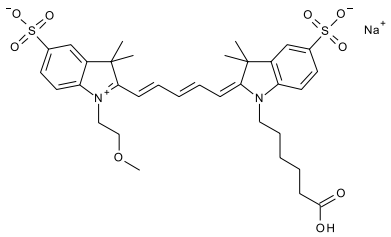


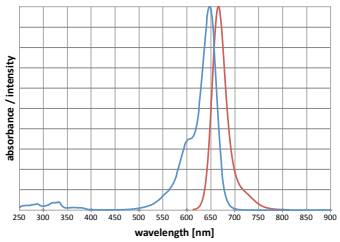


DY-647P1

Absorption/emission max.:	648 nm / 666 nm (in PBS)
Molar absorbance:	250,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	708.82	$C_{34}H_{41}N_2O_9S_2$ * Na	647P1-00
NHS-ester	805.89	$C_{38}H_{44}N_3O_{11}S_2$ * Na	647P1-01
Amino-derivative	728.92	$C_{36}H_{48}N_4O_8S_2$	647P1-02
Maleimide	830.94	$C_{40}H_{47}N_4O_{10}S_2$ * Na	647P1-03

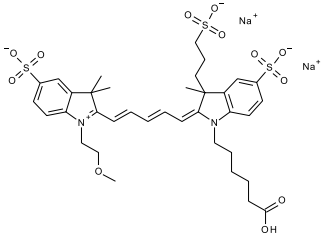


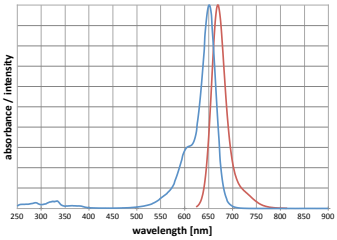


DY-648P1

Absorption/emission max.:	651 nm / 669 nm (in PBS)
Molar absorbance:	250,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	838.92	$C_{36}H_{44}N_2O_{12}S_3$ * 2 Na	648P1-00
NHS-ester	935.99	$C_{40}H_{47}N_3O_{14}S_3$ * 2 Na	648P1-01
Amino-derivative	859.02	$C_{38}H_{51}N_4O_{11}S_3$ * Na	648P1-02
Maleimide	961.04	$C_{42}H_{50}N_4O_{13}S_3$ * 2 Na	648P1-03

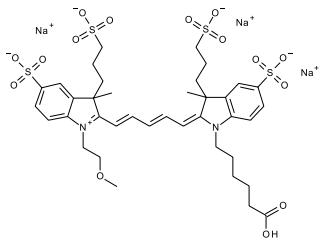


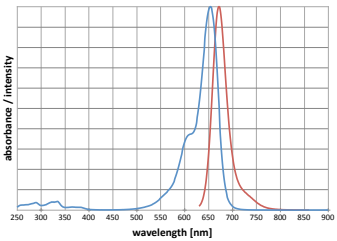


DY-649P1

Absorption/emission max.:	654 nm / 672 nm (in PBS)
Molar absorbance:	250,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol – very hydrophilic – three negative charges – usually combined with DY-549P1	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	969.03	$C_{38}H_{47}N_2O_{15}S_4$ * 3 Na	649P1-00
NHS-ester	1066.10	$C_{42}H_{50}N_3O_{17}S_4$ * 3 Na	649P1-01
Amino-derivative	989.13	$C_{40}H_{54}N_4O_{14}S_4$ * 2 Na	649P1-02
Maleimide	1091.16	$C_{44}H_{53}N_4O_{16}S_4$ * 3 Na	649P1-03



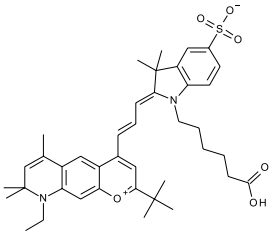


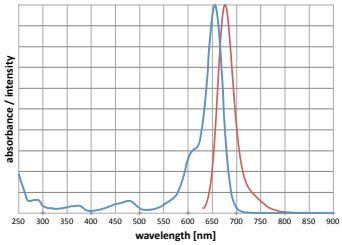
DY-650

Absorption/emission max.:	656 nm / 676 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	686.92	$C_{40}H_{50}N_2O_6S$	650-00
NHS-ester	783.99	$C_{44}H_{53}N_3O_8S$	650-01
Amino-derivative	765.46	$C_{42}H_{57}N_4O_5S * Cl$	650-02
Maleimide	809.05	$C_{46}H_{56}N_4O_7S$	650-03



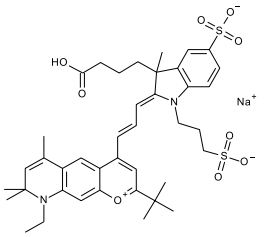


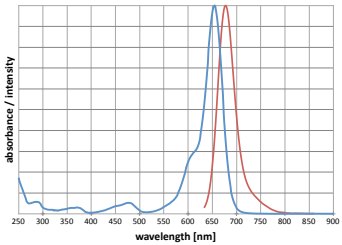
DY-651

Absorption/emission max.:	655 nm / 677 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	788.96	$C_{40}H_{49}N_2O_9S_2 * Na$	651-00
NHS-ester	886.04	$C_{44}H_{52}N_3O_{11}S_2 * Na$	651-01
Amino-derivative	809.06	$C_{42}H_{56}N_4O_8S_2$	651-02
Maleimide	911.09	$C_{46}H_{55}N_4O_{10}S_2 * Na$	651-03

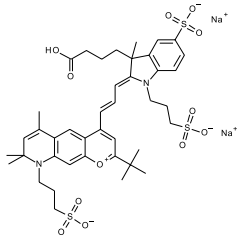


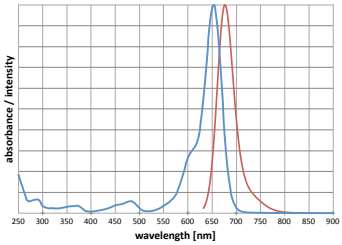


DY-652

Absorption/emission max.:	653 nm / 676 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	905.03	$C_{41}H_{50}N_2O_{12}S_3$ * 2 Na	652-00
NHS-ester	1002.11	$C_{45}H_{53}N_3O_{14}S_3$ * 2 Na	652-01
Amino-derivative	925.13	$C_{43}H_{57}N_4O_{11}S_3$ * Na	652-02
Maleimide	1027.16	$C_{47}H_{56}N_4O_{13}S_3$ * 2 Na	652-03

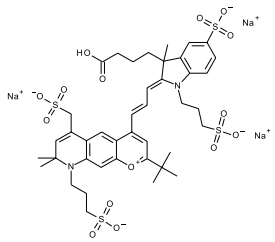


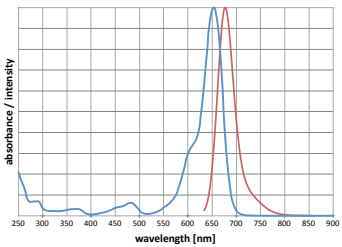


DY-654

Absorption/emission max.:	653 nm / 677 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1007.08	$C_{41}H_{49}N_2O_{15}S_4$ * 3 Na	654-00
NHS-ester	1104.13	$C_{45}H_{52}N_3O_{17}S_4$ * 3 Na	654-01
Amino-derivative	1027.18	$C_{43}H_{56}N_4O_{14}S_4$ * 2 Na	654-02
Maleimide	1129.21	$C_{47}H_{55}N_4O_{16}S_4$ * 3 Na	654-03

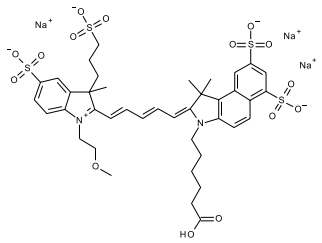


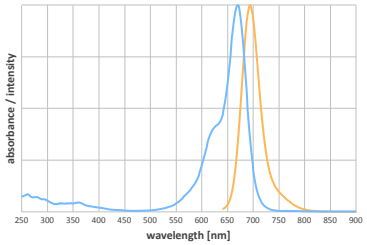


DY-660P1

Absorption/emission max.:	663 nm / 682 nm (in PBS)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	991.02	$C_{40}H_{45}N_2O_{15}S_4$ * 3 Na	660P1-00
NHS-ester	1088.09	$C_{44}H_{48}N_3O_{17}S_4$ * 3 Na	660P1-01
Amino-derivative	1011.12	$C_{42}H_{52}N_4O_{14}S_4$ * 2 Na	660P1-02
Maleimide	1113.14	$C_{46}H_{51}N_4O_{16}S_4$ * 3 Na	660P1-03





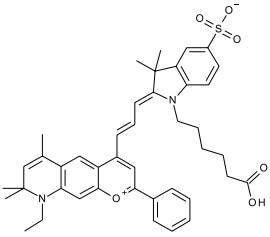
Label | Far red excitation

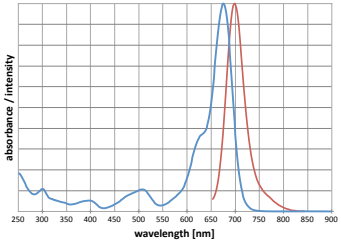
DY-675

Absorption/emission max.:	675 nm / 699 nm (in Ethanol)
Molar absorbance:	180,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	706.91	$C_{42}H_{46}N_2O_6S$	675-00
NHS-ester	803.98	$C_{46}H_{49}N_3O_8S$	675-01
Amino-derivative	785.45	$C_{44}H_{53}N_4O_5S * Cl$	675-02
Maleimide	829.04	$C_{48}H_{52}N_4O_7S$	675-03



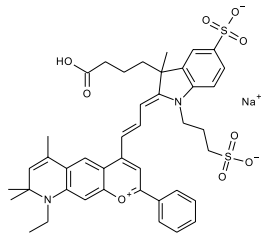


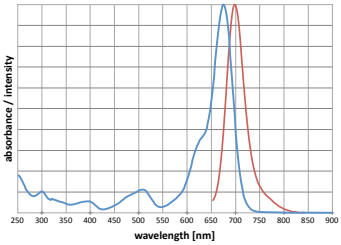
DY-676

Absorption/emission max.:	675 nm / 699 nm (in Ethanol)
Molar absorbance:	180,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	808.95	$C_{42}H_{45}N_2O_9S_2 * Na$	676-00
NHS-ester	906.02	$C_{46}H_{48}N_3O_{11}S_2 * Na$	676-01
Amino-derivative	829.06	$C_{44}H_{52}N_4O_8S_2$	676-02
Maleimide	931.08	$C_{48}H_{51}N_4O_{10}S_2 * Na$	676-03

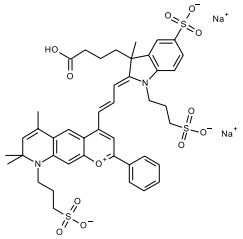


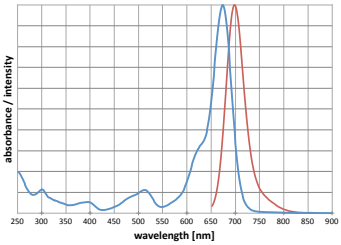


DY-677

Absorption/emission max.:	674 nm / 698 nm (in Ethanol)
Molar absorbance:	180,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	925.02	$C_{43}H_{46}N_2O_{12}S_3$ * 2 Na	677-00
NHS-ester	1022.10	$C_{47}H_{49}N_3O_{14}S_3$ * 2 Na	677-01
Amino-derivative	945.12	$C_{45}H_{53}N_4O_{11}S_3$ * Na	677-02
Maleimide	1047.15	$C_{49}H_{52}N_4O_{13}S_3$ * 2 Na	677-03

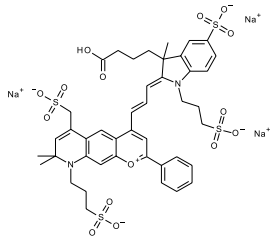


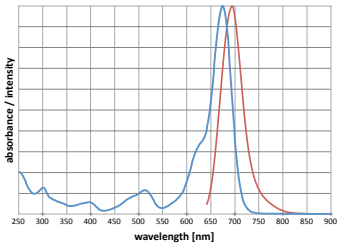


DY-678

Absorption/emission max.:	674 nm / 694 nm (in Ethanol)
Molar absorbance:	180,000 $M^{-1}cm^{-1}$
Comments: – very hydrophilic	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1027.07	$C_{43}H_{45}N_2O_{15}S_4$ * 3 Na	678-00
NHS-ester	1124.14	$C_{47}H_{48}N_3O_{17}S_4$ * 3 Na	678-01
Amino-derivative	1047.17	$C_{45}H_{52}N_4O_{14}S_4$ * 2 Na	678-02
Maleimide	1149.18	$C_{49}H_{51}N_4O_{16}S_4$ * 3 Na	678-03

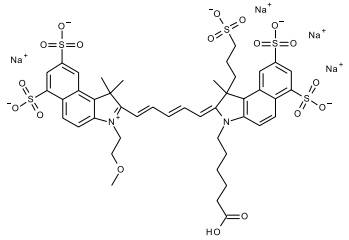


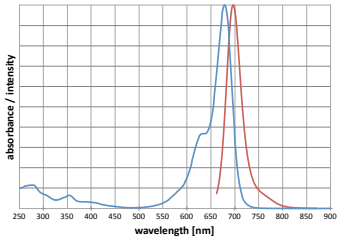


DY-679P1

Absorption/emission max.:	679 nm / 697 nm (in PBS)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF-water-mixtures	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1143.14	$C_{44}H_{46}N_2O_{18}S_5$ * 4 Na	679P1-00
NHS-ester	1240.21	$C_{48}H_{49}N_3O_{20}S_5$ * 4 Na	679P1-01
Amino-derivative	1163.24	$C_{46}H_{53}N_4O_{17}S_5$ * 3 Na	679P1-02
Maleimide	1265.27	$C_{50}H_{52}N_4O_{19}S_5$ * 4 Na	679P1-03

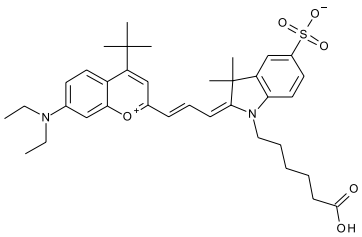


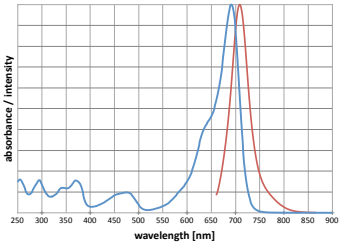


DY-680

Absorption/emission max.:	691 nm / 709 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO – bright solid state emission – suitable for microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	634.84	$C_{36}H_{46}N_2O_6S$	680-00
NHS-ester	731.92	$C_{40}H_{49}N_3O_8S$	680-01
Amino-derivative	713.38	$C_{38}H_{53}N_4O_5S$ * Cl	680-02
Maleimide	756.97	$C_{42}H_{52}N_4O_7S$	680-03



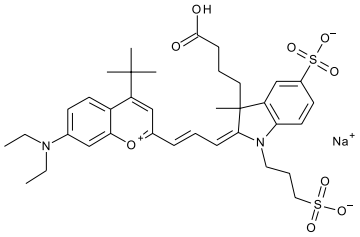


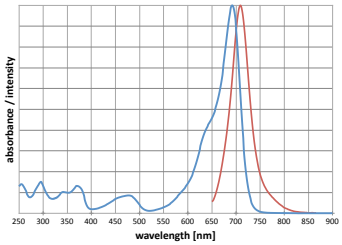
DY-681

Absorption/emission max.:	692 nm / 709 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	736.88	$C_{36}H_{45}N_2O_9S_2$ * Na	681-00
NHS-ester	833.95	$C_{40}H_{48}N_3O_{11}S_2$ * Na	681-01
Amino-derivative	756.99	$C_{38}H_{52}N_4O_8S_2$	681-02
Maleimide	859.01	$C_{42}H_{51}N_4O_{10}S_2$ * Na	681-03



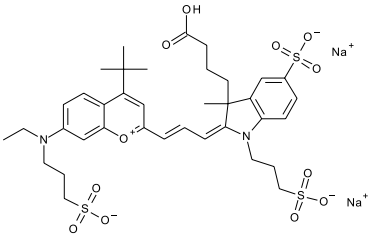


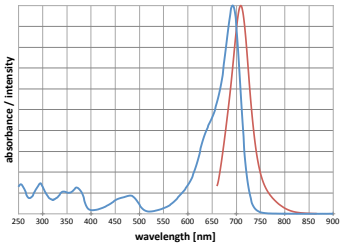
DY-682

Absorption/emission max.:	692 nm / 709 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	852.96	$C_{37}H_{46}N_2O_{12}S_3$ * 2 Na	682-00
NHS-ester	950.03	$C_{41}H_{49}N_3O_{14}S_3$ * 2 Na	682-01
Amino-derivative	873.06	$C_{39}H_{53}N_4O_{11}S_3$ * Na	682-02
Maleimide	975.08	$C_{43}H_{52}N_4O_{13}S_3$ * 2 Na	682-03

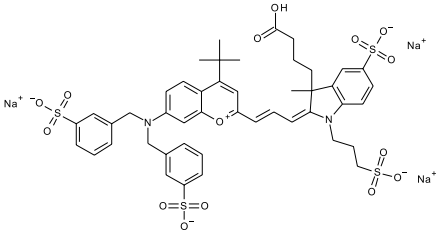


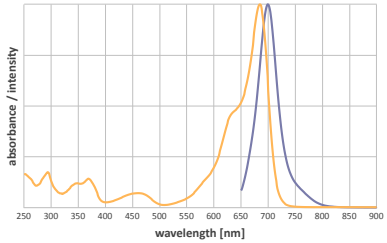


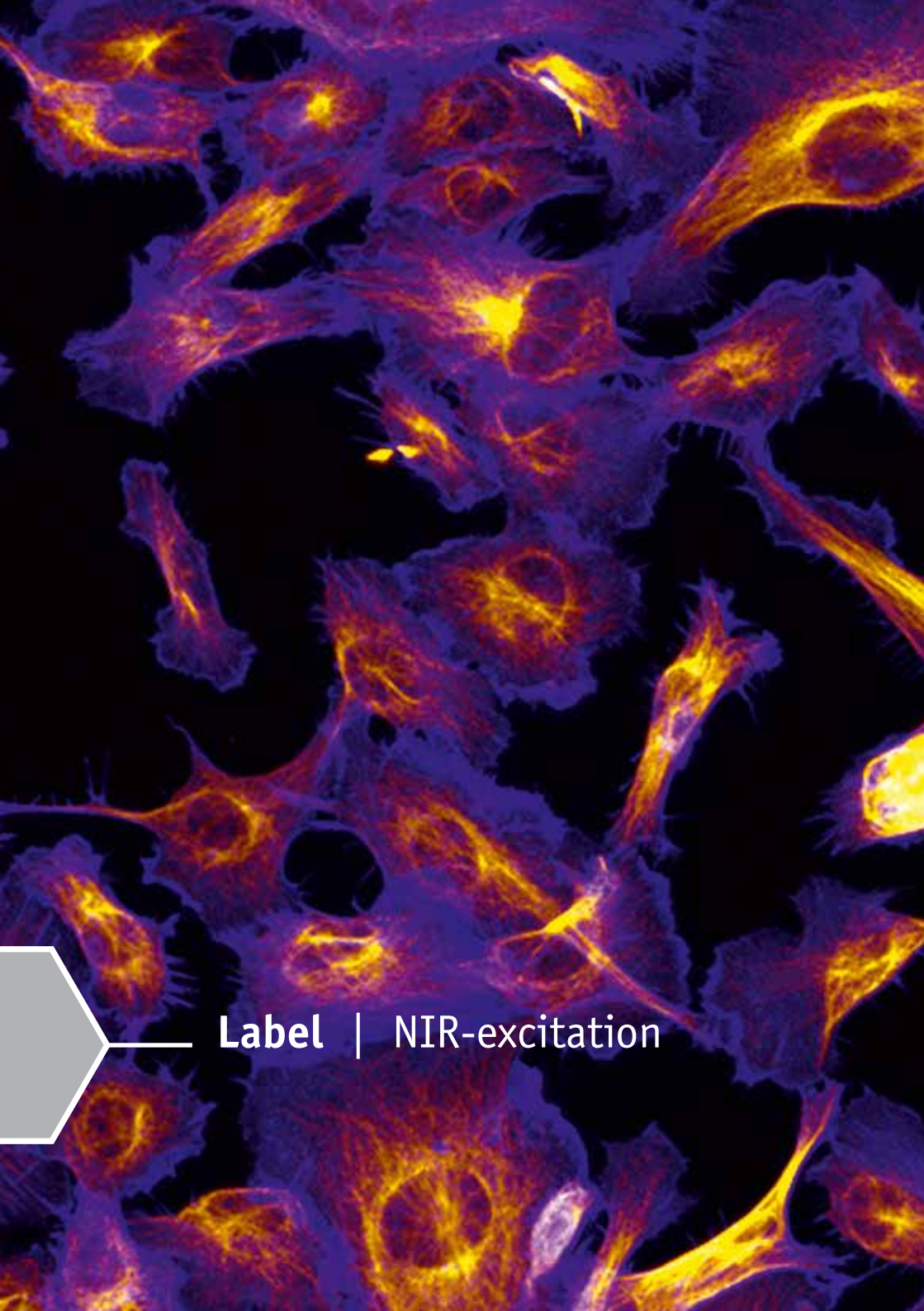
DY-684

Absorption/emission max.:	685 nm / 699 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1065.10	$C_{46}H_{47}N_2O_{15}S_4$ * 3 Na	684-00
NHS-ester	1162.17	$C_{50}H_{50}N_3O_{17}S_4$ * 3 Na	684-01
Amino-derivative	1085.20	$C_{48}H_{53}N_4O_{14}S_4$ * 2 Na	684-02
Maleimide	1187.22	$C_{52}H_{52}N_4O_{16}S_4$ * 3 Na	684-03





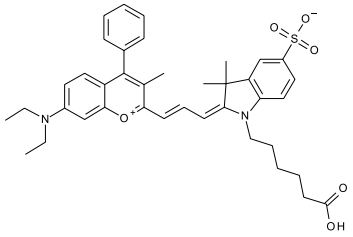

Label | NIR-excitation

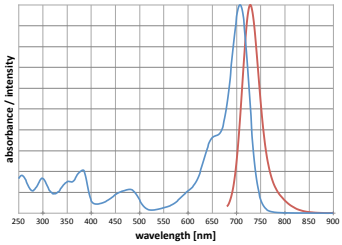
DY-700

Absorption/emission max.:	707 nm / 728 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$

Comments:
– soluble in methanol, ethanol, DMF, DMSO
– bright solid state emission
– suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	668.86	$C_{39}H_{44}N_2O_6S$	700-00
NHS-ester	765.93	$C_{43}H_{47}N_3O_8S$	700-01
Amino-derivative	747.40	$C_{41}H_{51}N_4O_5S * Cl$	700-02
Maleimide	790.99	$C_{45}H_{50}N_4O_7S$	700-03



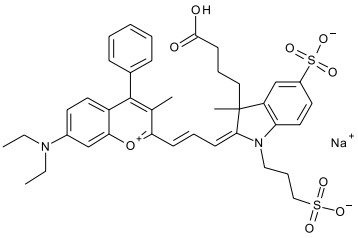


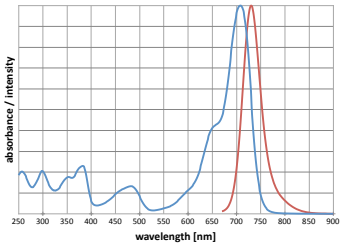
DY-701

Absorption/emission max.:	709 nm / 730 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$

Comments:
– soluble in water, methanol, DMF, DMSO
– bright solid state emission
– suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	770.90	$C_{39}H_{43}N_2O_9S_2 * Na$	701-00
NHS-ester	867.97	$C_{43}H_{46}N_3O_{11}S_2 * Na$	701-01
Amino-derivative	791.01	$C_{41}H_{50}N_4O_8S_2$	701-02
Maleimide	893.03	$C_{45}H_{49}N_4O_{10}S_2 * Na$	701-03

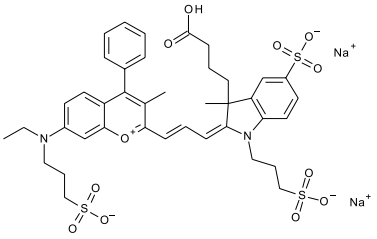


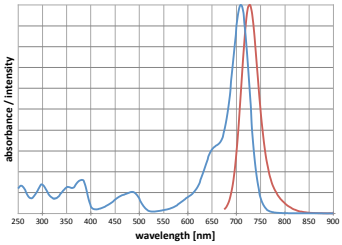


DY-702

Absorption/emission max.:	709 nm / 728 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	886.96	$C_{40}H_{44}N_2O_{12}S_3$ * 2 Na	702-00
NHS-ester	984.03	$C_{44}H_{47}N_3O_{14}S_3$ * 2 Na	702-01
Amino-derivative	907.06	$C_{42}H_{51}N_4O_{11}S_3$ * Na	702-02
Maleimide	1009.08	$C_{46}H_{50}N_4O_{13}S_3$ * 2 Na	702-03

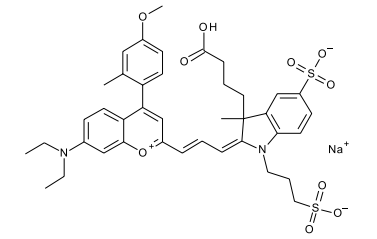


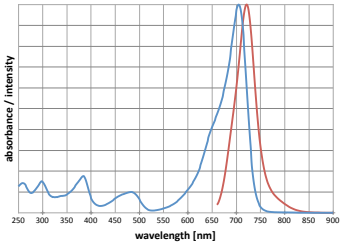


DY-703

Absorption/emission max.:	705 nm / 721 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	800.93	$C_{40}H_{45}N_2O_{10}S_2$ * Na	703-00
NHS-ester	898.00	$C_{44}H_{48}N_3O_{12}S_2$ * Na	703-01
Amino-derivative	821.03	$C_{42}H_{52}N_4O_9S_2$	703-02
Maleimide	923.06	$C_{46}H_{51}N_4O_{11}S_2$ * Na	703-03

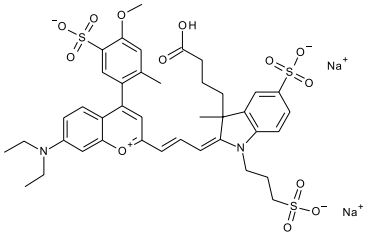


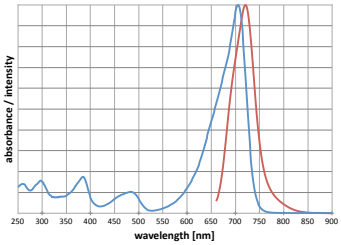


DY-704

Absorption/emission max.:	706 nm / 721 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – very hydrophilic	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	902.97	$C_{40}H_{44}N_2O_{13}S_3$ * 2 Na	704-00
NHS-ester	1000.05	$C_{44}H_{47}N_3O_{15}S_3$ * 2 Na	704-01
Amino-derivative	923.07	$C_{42}H_{51}N_4O_{12}S_3$ * Na	704-02
Maleimide	1025.10	$C_{46}H_{50}N_4O_{14}S_3$ * 2 Na	704-03

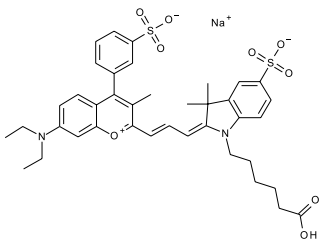


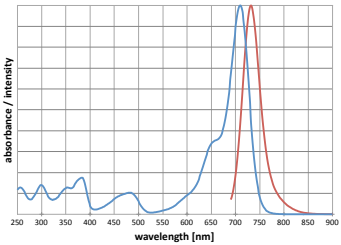


DY-705

Absorption/emission max.:	710 nm / 732 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	770.89	$C_{39}H_{43}N_2O_9S_2$ * Na	705-00
NHS-ester	867.96	$C_{43}H_{46}N_3O_{11}S_2$ * Na	705-01
Amino-derivative	790.99	$C_{41}H_{50}N_4O_8S_2$	705-02
Maleimide	893.01	$C_{45}H_{49}N_4O_{10}S_2$ * Na	705-03

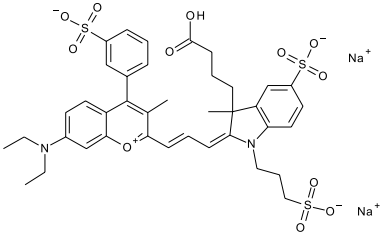


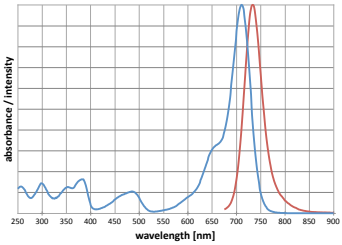


DY-706

Absorption/emission max.:	710 nm / 733 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	872.93	$C_{39}H_{42}N_2O_{12}S_3$ * 2 Na	706-00
NHS-ester	970.00	$C_{43}H_{45}N_3O_{14}S_3$ * 2 Na	706-01
Amino-derivative	893.03	$C_{41}H_{49}N_4O_{11}S_3$ * Na	706-02
Maleimide	995.06	$C_{45}H_{48}N_4O_{13}S_3$ * 2 Na	706-03

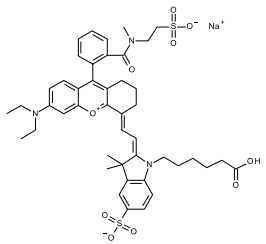


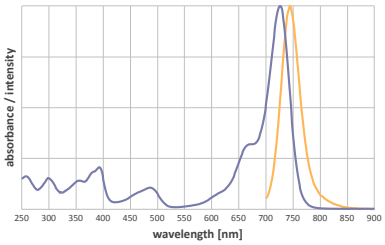


DY-720

Absorption/emission max.:	726 nm / 744 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	882.03	$C_{45}H_{52}N_3O_{10}S_2$ * Na	720-00
NHS-ester	979.10	$C_{49}H_{55}N_4O_{12}S_2$ * Na	720-01
Amino-derivative	902.13	$C_{47}H_{59}N_5O_9S_2$	720-02
Maleimide	1004.15	$C_{51}H_{58}N_5O_{11}S_2$ * Na	720-03



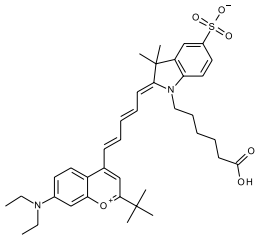


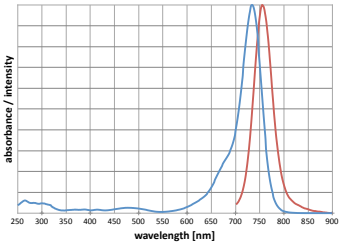
DY-730

Absorption/emission max.:	734 nm / 755 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- soluble in methanol, ethanol, DMF, DMSO
- bright solid state emission
- suitable for microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	660.88	$C_{38}H_{48}N_2O_6S$	730-00
NHS-ester	757.96	$C_{42}H_{51}N_3O_8S$	730-01
Amino-derivative	739.42	$C_{40}H_{55}N_4O_5S * Cl$	730-02
Maleimide	783.01	$C_{44}H_{54}N_4O_7S$	730-03



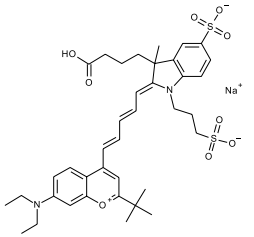


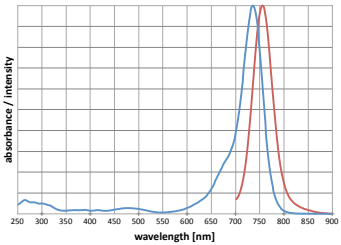
DY-731

Absorption/emission max.:	736 nm / 755 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	762.92	$C_{38}H_{47}N_2O_9S_2 * Na$	731-00
NHS-ester	859.99	$C_{42}H_{50}N_3O_{11}S_2 * Na$	731-01
Amino-derivative	783.03	$C_{40}H_{54}N_4O_8S_2$	731-02
Maleimide	885.05	$C_{44}H_{53}N_4O_{10}S_2 * Na$	731-03



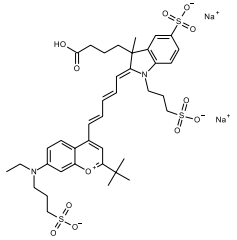


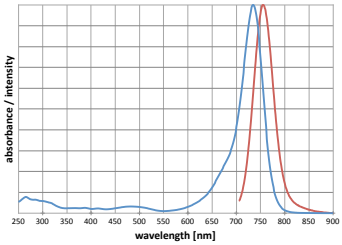
DY-732

Absorption/emission max.:	735 nm / 756 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	879.00	$C_{39}H_{48}N_2O_{12}S_3$ * 2 Na	732-00
NHS-ester	976.07	$C_{43}H_{51}N_3O_{14}S_3$ * 2 Na	732-01
Amino-derivative	899.10	$C_{41}H_{55}N_4O_{11}S_3$ * Na	732-02
Maleimide	1001.12	$C_{45}H_{54}N_4O_{13}S_3$ * 2 Na	732-03



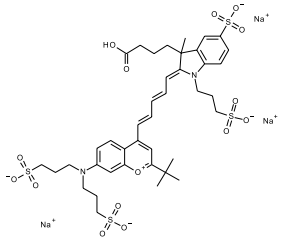


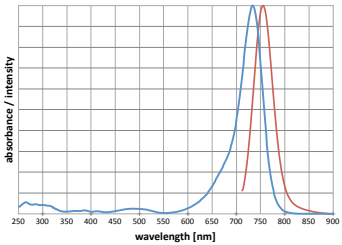
DY-734

Absorption/emission max.:	733 nm / 755 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	995.07	$C_{40}H_{49}N_2O_{15}S_4$ * 3 Na	734-00
NHS-ester	1092.14	$C_{44}H_{52}N_3O_{17}S_4$ * 3 Na	734-01
Amino-derivative	1015.19	$C_{42}H_{56}N_4O_{14}S_4$ * 2 Na	734-02
Maleimide	1117.19	$C_{46}H_{55}N_4O_{16}S_4$ * 3 Na	734-03

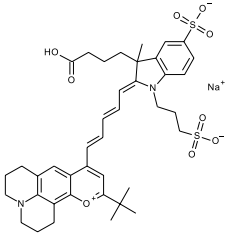


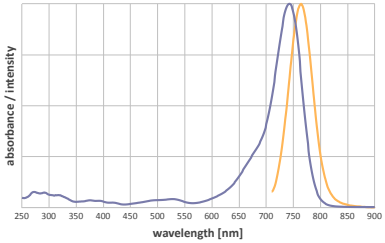


DY-736

Absorption/emission max.:	743 nm / 764 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	786.93	$C_{40}H_{47}N_2O_9S_2$ * Na	736-00
NHS-ester	884.00	$C_{44}H_{50}N_3O_{11}S_2$ * Na	736-01
Amino-derivative	807.03	$C_{42}H_{54}N_4O_8S_2$	736-02
Maleimide	909.05	$C_{46}H_{53}N_4O_{10}S_2$ * Na	736-03

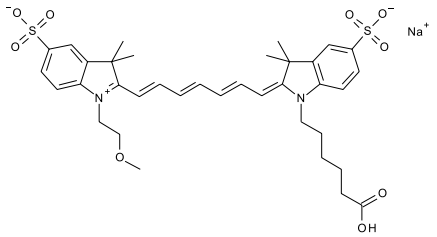


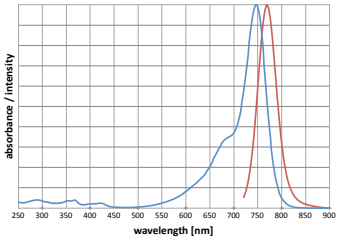


DY-747P1

Absorption/emission max.:	747 nm / 769 nm (in PBS)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	734.85	$C_{36}H_{43}N_2O_9S_2$ * Na	747P1-00
NHS-ester	831.93	$C_{40}H_{46}N_3O_{11}S_2$ * Na	747P1-01
Amino-derivative	754.96	$C_{38}H_{50}N_4O_8S_2$	747P1-02
Maleimide	856.98	$C_{42}H_{49}N_4O_{10}S_2$ * Na	747P1-03

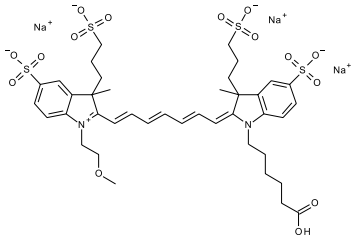


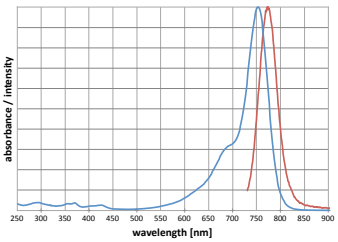


DY-749P1

Absorption/emission max.:	747 nm / 769 nm (in PBS)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	995.05	$C_{40}H_{49}N_2O_{15}S_4$ * 3 Na	749P1-00
NHS-ester	1092.12	$C_{44}H_{52}N_3O_{17}S_4$ * 3 Na	749P1-01
Amino-derivative	1015.15	$C_{42}H_{56}N_4O_{14}S_4$ * 2 Na	749P1-02
Maleimide	1117.18	$C_{46}H_{55}N_4O_{16}S_4$ * 3 Na	749P1-03

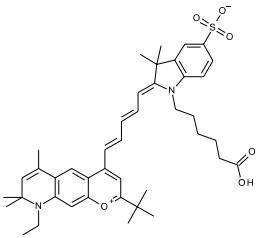


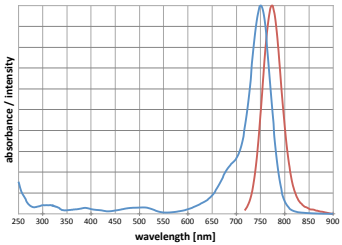


DY-750

Absorption/emission max.:	751 nm / 774 nm (in Ethanol)
Molar absorbance:	270,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO – bright solid state emission – suitable for microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	712.96	$C_{42}H_{52}N_2O_6S$	750-00
NHS-ester	810.03	$C_{46}H_{55}N_3O_8S$	750-01
Amino-derivative	791.49	$C_{44}H_{59}N_4O_5S$ * Cl	750-02
Maleimide	835.08	$C_{48}H_{58}N_4O_7S$	750-03



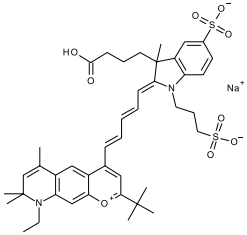


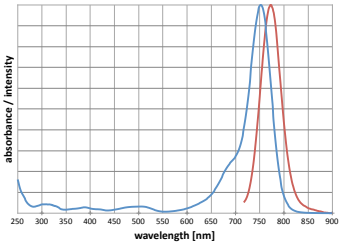
DY-751

Absorption/emission max.:	752 nm / 772 nm (in Ethanol)
Molar absorbance:	270,000 $M^{-1}cm^{-1}$

Comments:
– soluble in water, methanol, DMF, DMSO
– bright solid state emission
– suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	814.99	$C_{42}H_{51}N_2O_8S_2$ * Na	751-00
NHS-ester	912.07	$C_{46}H_{54}N_3O_{11}S_2$ * Na	751-01
Amino-derivative	835.10	$C_{44}H_{58}N_4O_8S_2$	751-02
Maleimide	937.13	$C_{48}H_{57}N_4O_{10}S_2$ * Na	751-03



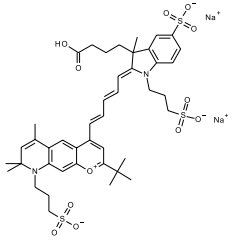


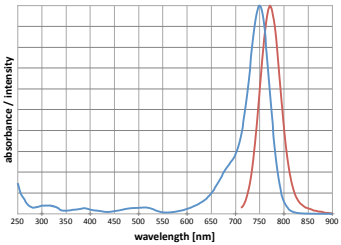
DY-752

Absorption/emission max.:	750 nm / 771 nm (in Ethanol)
Molar absorbance:	270,000 $M^{-1}cm^{-1}$

Comments:
– soluble in water, methanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	931.07	$C_{43}H_{52}N_2O_{12}S_3$ * 2 Na	752-00
NHS-ester	1028.15	$C_{47}H_{55}N_3O_{14}S_3$ * 2 Na	752-01
Amino-derivative	951.17	$C_{45}H_{59}N_4O_{11}S_3$ * Na	752-02
Maleimide	1053.20	$C_{49}H_{58}N_4O_{13}S_3$ * 2 Na	752-03

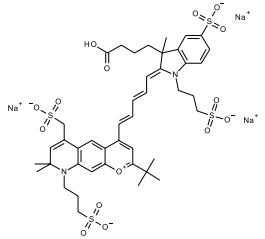


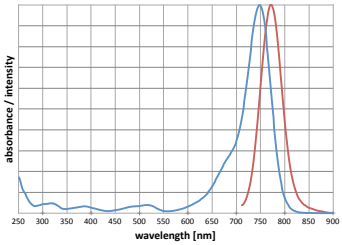


DY-754

Absorption/emission max.:	748 nm / 771 nm (in Ethanol)
Molar absorbance:	270,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1033.12	$C_{43}H_{51}N_2O_{15}S_4$ * 3 Na	754-00
NHS-ester	1130.19	$C_{47}H_{54}N_3O_{17}S_4$ * 3 Na	754-01
Amino-derivative	1053.22	$C_{45}H_{58}N_4O_{14}S_4$ * 2 Na	754-02
Maleimide	1155.25	$C_{49}H_{57}N_4O_{16}S_4$ * 3 Na	754-03

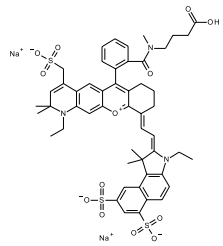


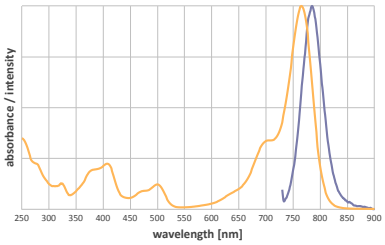


DY-765

Absorption/emission max.:	765 nm / 785 nm (in Ethanol)
Molar absorbance:	130,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1058.15	$C_{51}H_{53}N_3O_{13}S_3$ * 2 Na	765-00
NHS-ester	1155.23	$C_{55}H_{56}N_4O_{15}S_3$ * 2 Na	765-01
Amino-derivative	1078.25	$C_{53}H_{60}N_5O_{12}S_3$ * Na	765-02
Maleimide	1180.28	$C_{57}H_{59}N_5O_{14}S_3$ * 2 Na	765-03



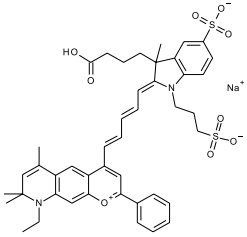


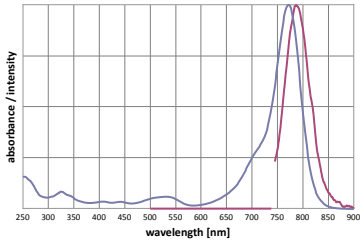
DY-776

Absorption/emission max.:	772 nm / 787 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	834.98	$C_{44}H_{47}N_2O_9S_2$ * Na	776-00
NHS-ester	932.07	$C_{48}H_{50}N_3O_{11}S_2$ * Na	776-01
Amino-derivative	855.09	$C_{46}H_{54}N_4O_8S_2$	776-02
Maleimide	957.12	$C_{50}H_{53}N_4O_{10}S_2$ * Na	776-03



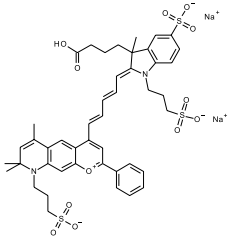


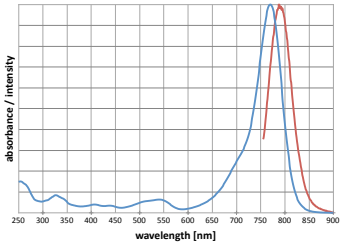
DY-777

Absorption/emission max.:	770 nm / 788 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$

Comments:
- hydrophilic

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	951.06	$C_{45}H_{48}N_2O_{12}S_3$ * 2 Na	777-00
NHS-ester	1048.14	$C_{49}H_{51}N_3O_{14}S_3$ * 2 Na	777-01
Amino-derivative	971.16	$C_{47}H_{55}N_4O_{11}S_3$ * Na	777-02
Maleimide	1073.19	$C_{51}H_{54}N_4O_{13}S_3$ * 2 Na	777-03

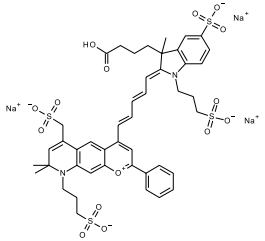


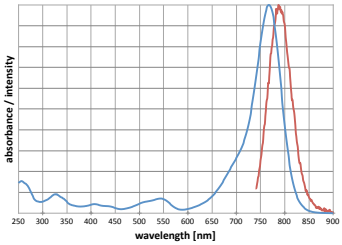


DY-778

Absorption/emission max.:	767 nm / 787 nm (in Ethanol)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$
Comments: – very hydrophilic	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1053.11	$C_{45}H_{47}N_2O_{15}S_4$ * 3 Na	778-00
NHS-ester	1150.18	$C_{49}H_{50}N_3O_{17}S_4$ * 3 Na	778-01
Amino-derivative	1073.21	$C_{47}H_{54}N_4O_{14}S_4$ * 2 Na	778-02
Maleimide	1175.24	$C_{51}H_{53}N_4O_{16}S_4$ * 3 Na	778-03

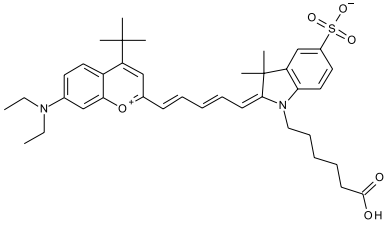


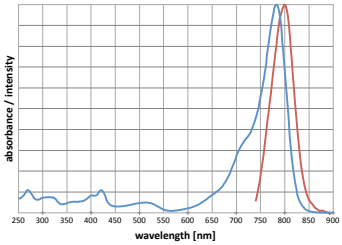


DY-780

Absorption/emission max.:	783 nm / 799 nm (in Ethanol)
Molar absorbance:	170,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO – bright solid state emission – suitable for microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	660.88	$C_{38}H_{48}N_2O_6S$	780-00
NHS-ester	757.95	$C_{42}H_{51}N_3O_8S$	780-01
Amino-derivative	816.97	$C_{31}H_{55}N_4O_5S$ * $C_2F_3O_2$	780-02
Maleimide	783.01	$C_{44}H_{54}N_4O_7S$	780-03



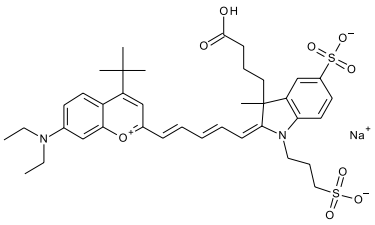


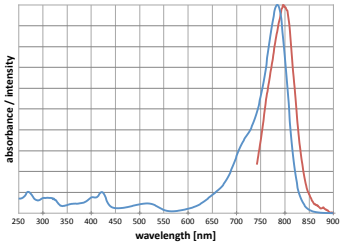
DY-781

Absorption/emission max.:	784 nm / 796 nm (in Ethanol)
Molar absorbance:	170,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, DMF, DMSO
- bright solid state emission
- suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	762.92	$C_{38}H_{47}N_2O_8S_2$ * Na	781-00
NHS-ester	860.00	$C_{42}H_{50}N_3O_{11}S_2$ * Na	781-01
Amino-derivative	783.03	$C_{40}H_{54}N_4O_8S_2$	781-02
Maleimide	885.05	$C_{44}H_{53}N_4O_{10}S_2$ * Na	781-03



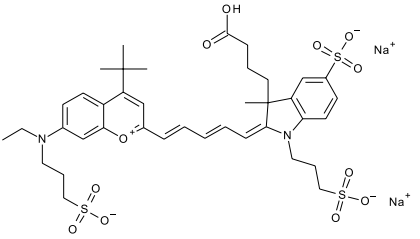


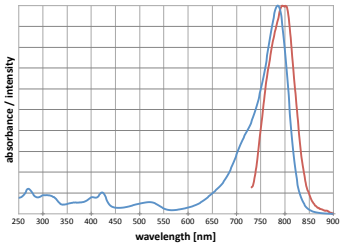
DY-782

Absorption/emission max.:	785 nm / 794 nm (in Ethanol)
Molar absorbance:	170,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol
- two negative charges
- enhanced water solubility and polarity

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	879.00	$C_{39}H_{48}N_2O_{12}S_3$ * 2 Na	782-00
NHS-ester	976.07	$C_{43}H_{51}N_3O_{14}S_3$ * 2 Na	782-01
Amino-derivative	899.10	$C_{41}H_{55}N_4O_{11}S_3$ * Na	782-02
Maleimide	1001.12	$C_{45}H_{54}N_4O_{13}S_3$ * 2 Na	782-03

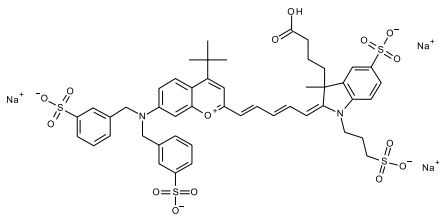


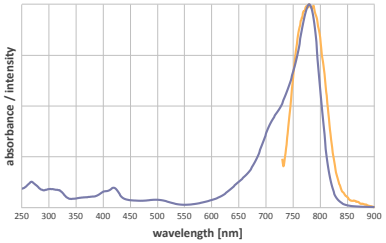


DY-784

Absorption/emission max.:	779 nm / 780 nm (in Ethanol)
Molar absorbance:	170,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1091.14	$C_{48}H_{49}N_2O_{15}S_4$ * 3 Na	784-00
NHS-ester	1188.21	$C_{52}H_{52}N_3O_{17}S_4$ * 3 Na	784-01
Amino-derivative	1111.24	$C_{50}H_{56}N_4O_{14}S_4$ * 2 Na	784-02
Maleimide	1213.26	$C_{54}H_{55}N_4O_{16}S_4$ * 3 Na	784-03

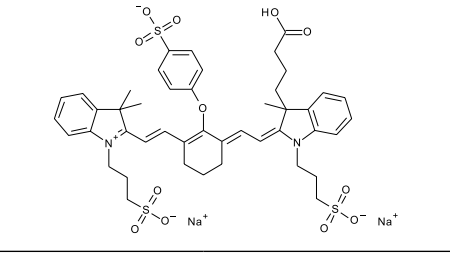


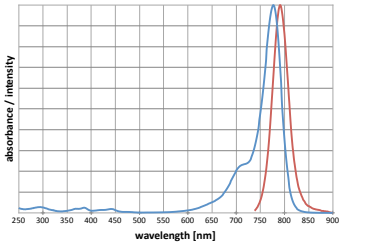


DY-800

Absorption/emission max.:	777 nm / 791 nm (in Ethanol)
Molar absorbance:	280,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF – hydrophilic	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	953.08	$C_{45}H_{50}N_2O_{12}S_3$ * 2 Na	800-00
NHS-ester	1050.15	$C_{49}H_{53}N_3O_{14}S_3$ * 2 Na	800-01
Amino-derivative	973.18	$C_{47}H_{57}N_4O_{11}S_3$ * Na	800-02
Maleimide	1075.21	$C_{51}H_{56}N_4O_{13}S_3$ * 2 Na	800-03

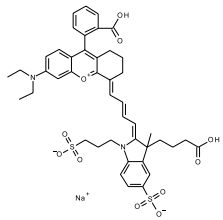


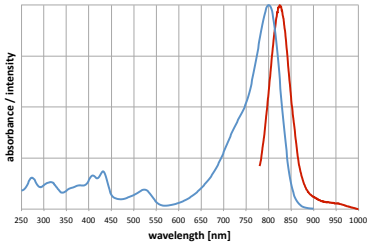


DY-805

Absorption/emission max.:	800 nm / 824 nm (in Ethanol)
Molar absorbance:	150,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	866.97	$C_{44}H_{47}N_2O_{11}S_2$ * Na	805-00
NHS-ester	964.04	$C_{48}H_{50}N_3O_{13}S_2$ * Na	805-01
Amino-derivative	887.07	$C_{46}H_{54}N_4O_{10}S_2$	805-02
Maleimide	989.10	$C_{50}H_{53}N_4O_{12}S_2$ * Na	805-03

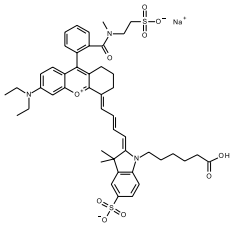


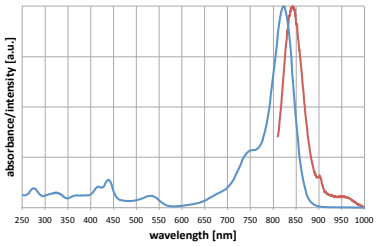


DY-820

Absorption/emission max.:	823 nm / 843 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	908.07	$C_{47}H_{54}N_3O_{10}S_2$ * Na	820-00
NHS-ester	1005.14	$C_{51}H_{57}N_4O_{12}S_2$ * Na	820-01
Amino-derivative	928.17	$C_{49}H_{61}N_5O_9S_2$	820-02
Maleimide	1030.19	$C_{53}H_{60}N_5O_{11}S_2$ * Na	820-03

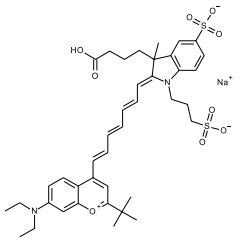


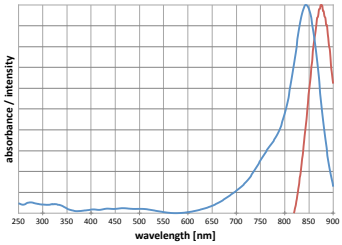


DY-831

Absorption/emission max.:	844 nm / 875 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	788.96	$C_{40}H_{49}N_2O_9S_2$ * Na	831-00
NHS-ester	886.04	$C_{44}H_{52}N_3O_{11}S_2$ * Na	831-01
Amino-derivative	809.06	$C_{42}H_{56}N_4O_8S_2$	831-02
Maleimide	911.09	$C_{46}H_{55}N_4O_{10}S_2$ * Na	831-03

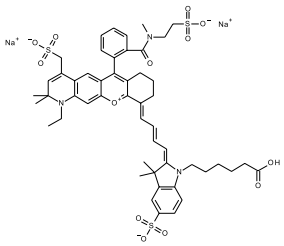


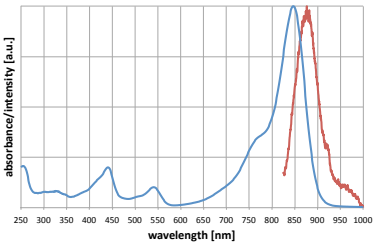


DY-845

Absorption/emission max.:	847 nm / 876 nm (in Ethanol)
Molar absorbance:	160,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1062.19	$C_{51}H_{57}N_3O_{13}S_3$ * 2 Na	845-00
NHS-ester	1159.26	$C_{55}H_{60}N_4O_{15}S_3$ * 2 Na	845-01
Amino-derivative	1082.29	$C_{53}H_{64}N_5O_{12}S_3$ * Na	845-02
Maleimide	1184.31	$C_{57}H_{63}N_5O_{14}S_3$ * 2 Na	845-03

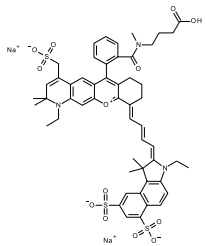


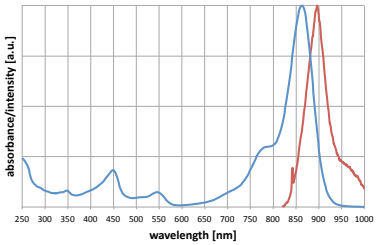


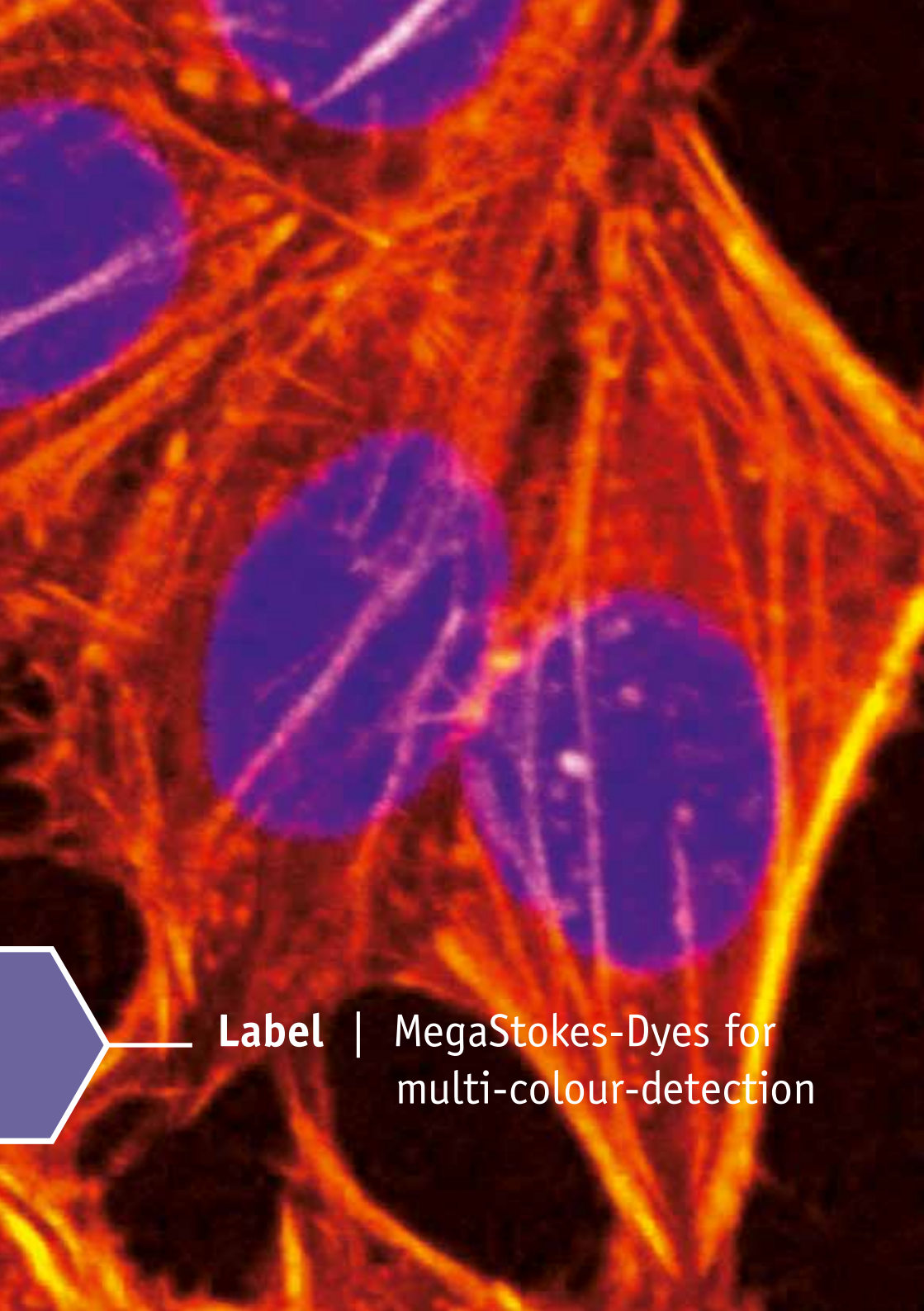
DY-865

Absorption/emission max.:	863 nm / 896 nm (in Ethanol)
Molar absorbance:	190,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1084.19	$C_{53}H_{55}N_3O_{13}S_3$ * 2 Na	865-00
NHS-ester	1181.26	$C_{57}H_{58}N_4O_{15}S_3$ * 2 Na	865-01
Amino-derivative	1104.29	$C_{55}H_{62}N_5O_{12}S_3$ * Na	865-02
Maleimide	1206.32	$C_{59}H_{61}N_5O_{14}S_3$ * 2 Na	865-03





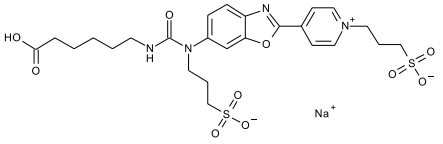


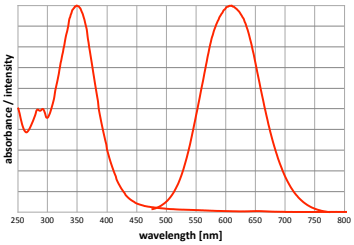
Label | MegaStokes-Dyes for multi-colour-detection

DY-350XL

Absorption/emission max.:	347 nm / 608 nm (in PBS)
Molar absorbance:	17,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	634.65	$C_{25}H_{31}N_4O_{10}S_2$ * Na	350XL-00
NHS-ester	731.74	$C_{29}H_{34}N_5O_{12}S_2$ * Na	350XL-01
Amino-derivative	654.77	$C_{27}H_{38}N_6O_9S_2$	350XL-02
Maleimide	756.79	$C_{31}H_{37}N_6O_{11}S_2$ * Na	350XL-03

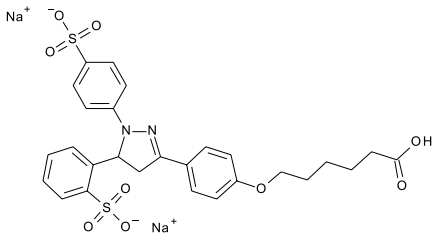


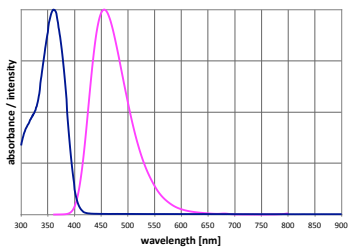


DY-360XL

Absorption/emission max.:	362 nm / 459 nm (in PBS)
Molar absorbance:	27,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	632.61	$C_{27}H_{26}N_2O_9S_2$ * 2 Na	360XL-00
NHS-ester	729.69	$C_{31}H_{29}N_3O_{11}S_2$ * 2 Na	360XL-01
Amino-derivative	652.71	$C_{29}H_{33}N_4O_8S_2$ * Na	360XL-02
Maleimide	754.74	$C_{33}H_{32}N_4O_{10}S_2$ * 2 Na	360XL-03

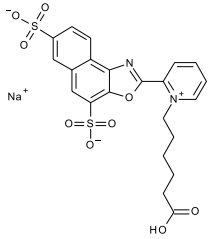


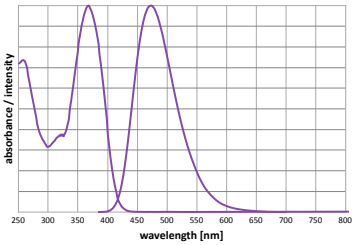


DY-370XL

Absorption/emission max.:	368 nm / 475 nm (in PBS)
Molar absorbance:	17,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	542.51	$C_{22}H_{19}N_2O_9S_2$ * Na	370XL-00
NHS-ester	639.59	$C_{26}H_{22}N_3O_{11}S_2$ * Na	370XL-01
Amino-derivative	562.62	$C_{24}H_{26}N_4O_8S_2$	370XL-02
Maleimide	664.64	$C_{28}H_{25}N_4O_{10}S_2$ * Na	370XL-03

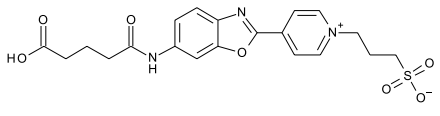


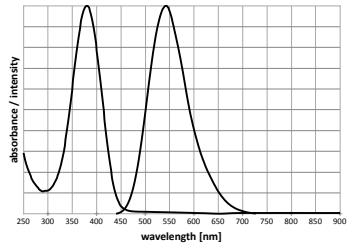


DY-375XL

Absorption/emission max.:	375 nm / 543 nm (in PBS)
Molar absorbance:	20,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	447.46	$C_{20}H_{21}N_3O_7S$	375XL-00
NHS-ester	544.53	$C_{24}H_{24}N_4O_9S$	375XL-01
Amino-derivative	526.00	$C_{22}H_{28}N_5O_6S$ * Cl	375XL-02
Maleimide	569.58	$C_{26}H_{27}N_5O_8S$	375XL-03

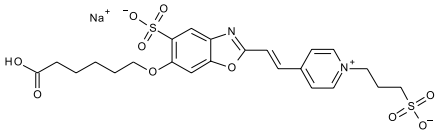


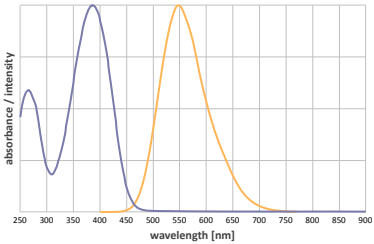


DY-376XL

Absorption/emission max.:	387 nm / 549 nm (in PBS)
Molar absorbance:	25,400 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	576.57	$C_{23}H_{25}N_2O_{10}S_2 * Na$	376XL-00
NHS-ester	673.64	$C_{27}H_{28}N_3O_{12}S_2 * Na$	376XL-01
Amino-derivative	596.67	$C_{25}H_{32}N_4O_9S_2$	376XL-02
Maleimide	698.69	$C_{29}H_{31}N_4O_{11}S_2 * Na$	376XL-03

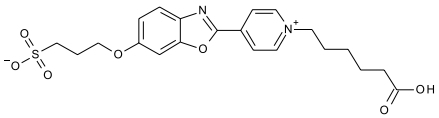


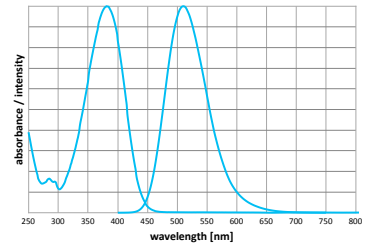


DY-380XL

Absorption/emission max.:	382 nm / 510 nm (in PBS)
Molar absorbance:	22,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	448.49	$C_{21}H_{24}N_2O_7S$	380XL-00
NHS-ester	545.56	$C_{25}H_{27}N_3O_9S$	380XL-01
Amino-derivative	527.03	$C_{23}H_{31}N_4O_6S * Cl$	380XL-02
Maleimide	570.61	$C_{27}H_{30}N_4O_8S$	380XL-03

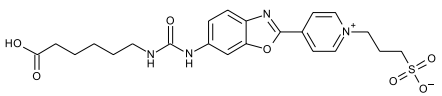


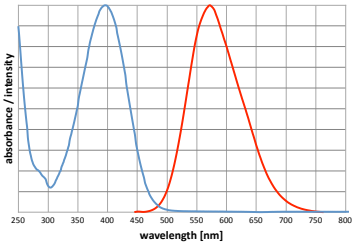


DY-395XL

Absorption/emission max.:	397 nm / 572 nm (in PBS)
Molar absorbance:	22,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	490.53	$C_{22}H_{26}N_4O_7S$	395XL-00
NHS-ester	587.60	$C_{26}H_{29}N_5O_9S$	395XL-01
Amino-derivative	569.07	$C_{24}H_{33}N_6O_6S * Cl$	395XL-02
Maleimide	612.65	$C_{28}H_{32}N_6O_8S$	395XL-03

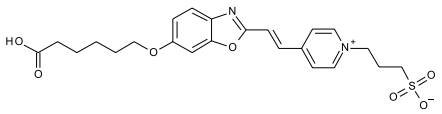


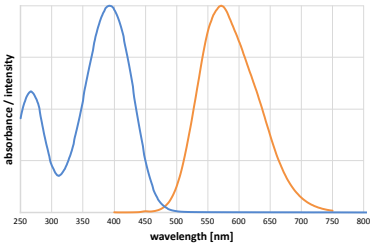


DY-396XL

Absorption/emission max.:	394 nm / 572 nm (in PBS)
Molar absorbance:	26,600 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	474.53	$C_{23}H_{26}N_2O_7S$	396XL-00
NHS-ester	571.60	$C_{27}H_{29}N_3O_9S$	396XL-01
Amino-derivative	553.07	$C_{25}H_{33}N_4O_6S * Cl$	396XL-02
Maleimide	596.65	$C_{29}H_{32}N_4O_8S$	396XL-03

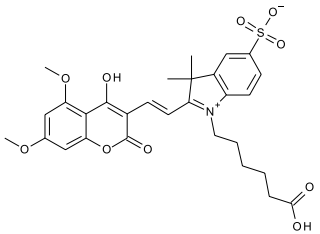


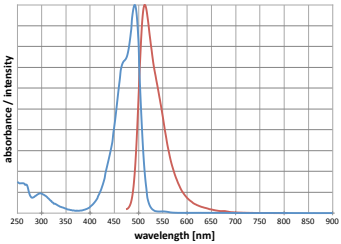


DY-475XL

Absorption/emission max.:	494 nm / 512 nm (in Ethanol)
Molar absorbance:	90,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	585.62	$C_{29}H_{31}NO_{10}S$	475XL-00
NHS-ester	682.69	$C_{33}H_{34}N_2O_{12}S$	475XL-01
Amino-derivative	627.70	$C_{31}H_{37}N_3O_9S$	475XL-02
Maleimide	707.75	$C_{35}H_{37}N_3O_{11}S$	475XL-03

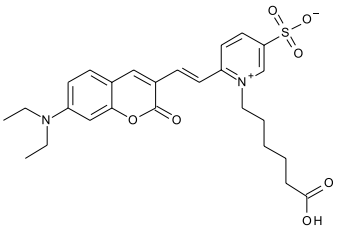


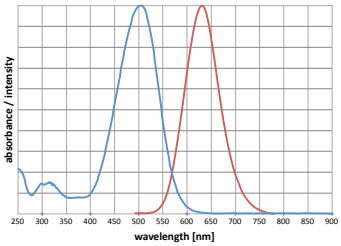


DY-480XL

Absorption/emission max.:	504 nm / 631 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, DMF, DMSO – bright solid state emission – suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	514.60	$C_{26}H_{30}N_2O_7S$	480XL-00
NHS-ester	611.68	$C_{30}H_{33}N_3O_9S$	480XL-01
Amino-derivative	593.14	$C_{28}H_{37}N_4O_6S * Cl$	480XL-02
Maleimide	636.73	$C_{32}H_{36}N_4O_8S$	480XL-03

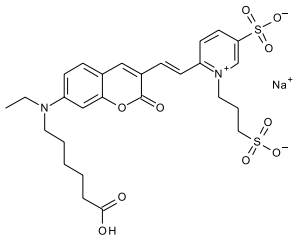


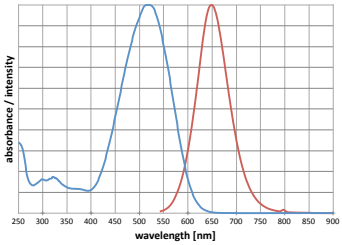


DY-481XL

Absorption/emission max.:	521 nm / 649 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	630.67	$C_{27}H_{31}N_2O_{10}S_2$ * Na	481XL-00
NHS-ester	727.75	$C_{31}H_{34}N_3O_{12}S_2$ * Na	481XL-01
Amino-derivative	650.78	$C_{29}H_{38}N_4O_9S_2$	481XL-02
Maleimide	752.80	$C_{33}H_{37}N_4O_{11}S_2$ * Na	481XL-03

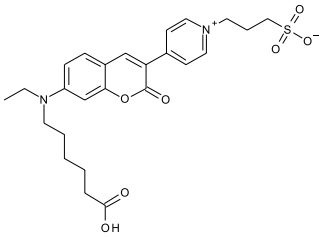


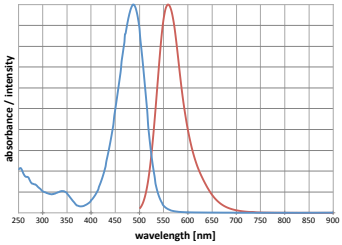


DY-485XL

Absorption/emission max.:	488 nm / 559 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, DMF, DMSO – bright solid state emission – suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	502.59	$C_{25}H_{30}N_2O_7S$	485XL-00
NHS-ester	599.67	$C_{29}H_{33}N_3O_9S$	485XL-01
Amino-derivative	581.13	$C_{27}H_{37}N_4O_6S$ * Cl	485XL-02
Maleimide	624.72	$C_{31}H_{36}N_4O_8S$	485XL-03



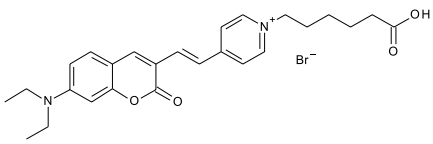


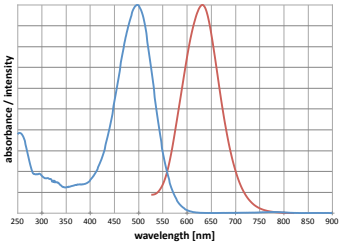
DY-494XL

Absorption/emission max.:	497 nm / 639 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$

Comments:
– soluble in methanol, ethanol, DMF, DMSO

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	515.44	$C_{26}H_{31}N_2O_4$ * Br	494XL-00
NHS-ester	612.51	$C_{30}H_{34}N_3O_6$ * Br	494XL-01
Amino-derivative	549.53	$C_{28}H_{38}N_4O_2$ * 2 Cl	494XL-02
Maleimide	637.56	$C_{32}H_{37}N_4O_5$ * Br	494XL-03



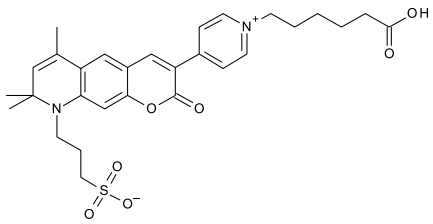


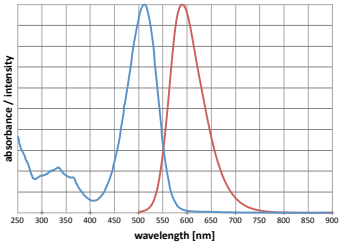
DY-510XL

Absorption/emission max.:	512 nm / 590 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$

Comments:
– soluble in methanol, ethanol, DMF, DMSO
– bright solid state emission
– suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	554.67	$C_{29}H_{34}N_2O_7S$	510XL-00
NHS-ester	651.74	$C_{33}H_{37}N_3O_9S$	510XL-01
Amino-derivative	633.21	$C_{31}H_{41}N_4O_6S$ * Cl	510XL-02
Maleimide	676.80	$C_{35}H_{40}N_4O_8S$	510XL-03

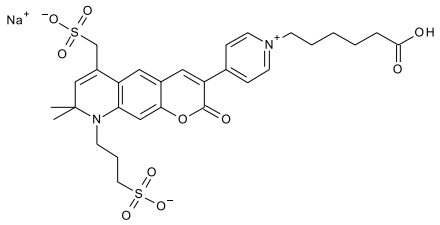


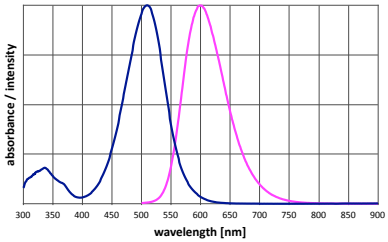


DY-511XL

Absorption/emission max.:	510 nm / 595 nm (in PBS)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	656.70	$C_{29}H_{33}N_2O_{10}S_2$ * Na	511XL-00
NHS-ester	753.77	$C_{33}H_{36}N_3O_{12}S_2$ * Na	511XL-01
Amino-derivative	676.80	$C_{31}H_{40}N_4O_9S_2$	511XL-02
Maleimide	778.82	$C_{35}H_{39}N_4O_{11}S_2$ * Na	511XL-03

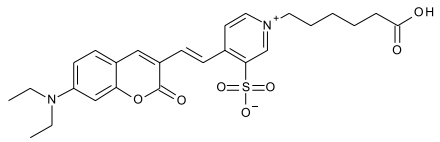


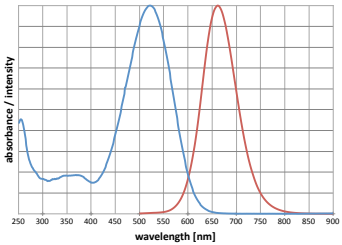


DY-520XL

Absorption/emission max.:	522 nm / 662 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, DMF, DMSO – bright solid state emission – suitable for protein labeling, microarray experiments, FisH microscopy, gel electrophoresis	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	514.60	$C_{26}H_{30}N_2O_7S$	520XL-00
NHS-ester	611.68	$C_{30}H_{33}N_3O_9S$	520XL-01
Amino-derivative	593.14	$C_{28}H_{37}N_4O_6S$ * Cl	520XL-02
Maleimide	636.73	$C_{32}H_{36}N_4O_8S$	520XL-03

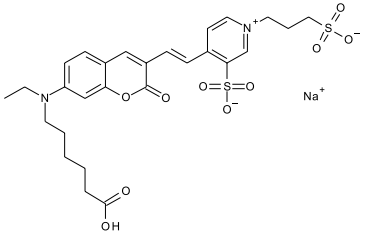


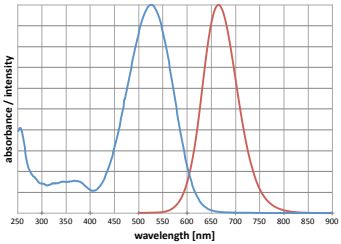


DY-521XL

Absorption/emission max.:	526 nm / 666 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	630.67	$C_{27}H_{31}N_2O_{10}S_2$ * Na	521XL-00
NHS-ester	727.75	$C_{31}H_{34}N_3O_{12}S_2$ * Na	521XL-01
Amino-derivative	650.78	$C_{29}H_{38}N_4O_9S_2$	521XL-02
Maleimide	752.80	$C_{33}H_{37}N_4O_{11}S_2$ * Na	521XL-03





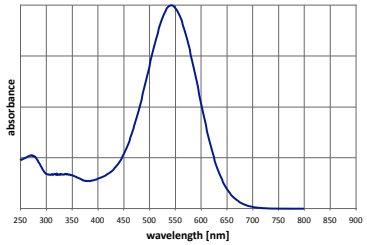
Label | Quencher

DYQ-1

Absorption max.:	543 nm (in PBS)
Molar absorbance:	44,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	788.75	$C_{32}H_{34}N_6O_{11}S_2$ * 2 Na	DYQ1-00
NHS-ester	885.83	$C_{36}H_{37}N_7O_{13}S_2$ * 2 Na	DYQ1-01
Amino-derivative	808.85	$C_{34}H_{41}N_8O_{10}S_2$ * Na	DYQ1-02
Maleimide	910.88	$C_{38}H_{40}N_8O_{12}S_2$ * 2 Na	DYQ1-03

Structure on request

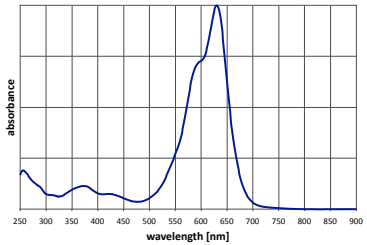


DYQ-2

Absorption max.:	641 nm (in PBS)
Molar absorbance:	105,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	745.79	$C_{36}H_{36}NO_{11}S_2$ * Na	DYQ2-00
NHS-ester	842.86	$C_{40}H_{39}N_2O_{13}S_2$ * Na	DYQ2-01
Amino-derivative	765.89	$C_{38}H_{43}N_3O_{10}S_2$	DYQ2-02
Maleimide	867.91	$C_{42}H_{42}N_3O_{12}S_2$ * Na	DYQ2-03

Structure on request

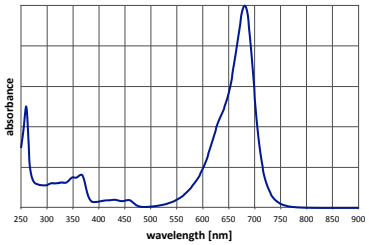


DYQ-3

Absorption max.:	683 nm (in PBS)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	802.84	$C_{35}H_{36}N_2O_{11}S_3$ * 2 Na	DYQ3-00
NHS-ester	899.91	$C_{39}H_{39}N_3O_{13}S_3$ * 2 Na	DYQ3-01
Amino-derivative	822.94	$C_{37}H_{43}N_4O_{10}S_3$ * Na	DYQ3-02
Maleimide	924.97	$C_{41}H_{42}N_4O_{12}S_3$ * 2 Na	DYQ3-03

Structure on request

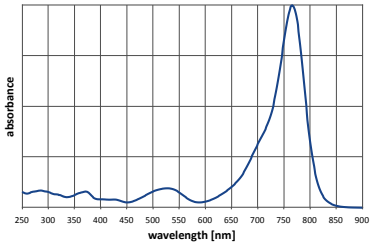


DYQ-4

Absorption max.:	766 nm (in PBS)
Molar absorbance:	180,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	796.92	$C_{41}H_{45}N_2O_9S_2$ * Na	DYQ4-00
NHS-ester	893.99	$C_{45}H_{48}N_3O_{11}S_2$ * Na	DYQ4-01
Amino-derivative	817.02	$C_{43}H_{52}N_4O_8S_2$	DYQ4-02
Maleimide	919.05	$C_{47}H_{51}N_4O_{10}S_2$ * Na	DYQ4-03

Structure on request

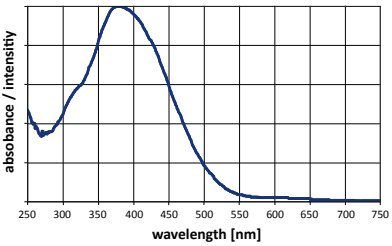


DYQ-425

Absorption max.:	429 nm (in PBS)
Molar absorbance:	24,500 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	784.36	$C_{23}H_{22}Br_2N_4O_{10}S_2$ * 2 Na	425Q-00
NHS-ester	881.43	$C_{27}H_{25}Br_2N_5O_{12}S_2$ * 2 Na	425Q-01
Amino-derivative	804.46	$C_{25}H_{29}Br_2N_6O_9S_2$ * Na	425Q-02
Maleimide	906.48	$C_{29}H_{28}Br_2N_6O_{11}S_2$ * 2 Na	425Q-03

Structure on request

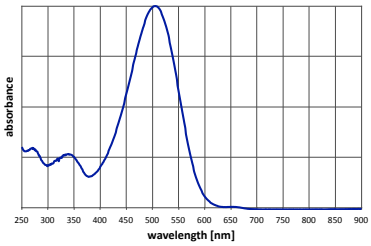


DYQ-505

Absorption max.:	506 nm (in PBS)
Molar absorbance:	44,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	713.73	$C_{31}H_{33}N_5O_8S_2$ * 2 Na	505Q-00
NHS-ester	810.80	$C_{35}H_{36}N_6O_{10}S_2$ * 2 Na	505Q-01
Amino-derivative	733.83	$C_{33}H_{40}N_7O_7S_2$ * Na	505Q-02
Maleimide	835.85	$C_{37}H_{39}N_7O_9S_2$ * 2 Na	505Q-03

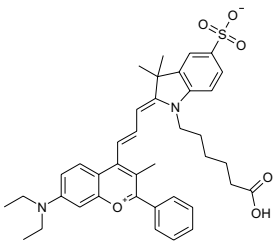
Structure on request

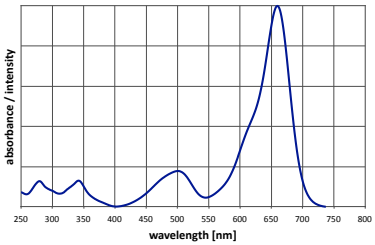


DYQ-660

Absorption max.:	660 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	668.84	$C_{39}H_{44}N_2O_6S$	660Q-00
NHS-ester	765.91	$C_{43}H_{47}N_3O_8S$	660Q-01
Amino-derivative	747.38	$C_{41}H_{51}N_4O_5S * Cl$	660Q-02
Maleimide	790.96	$C_{45}H_{50}N_4O_7S$	660Q-03

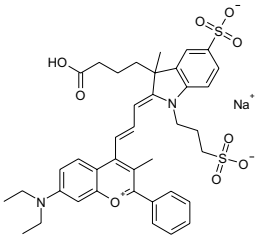


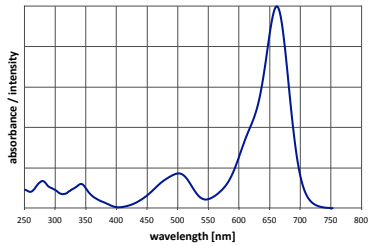


DYQ-661

Absorption max.:	662 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	770.88	$C_{39}H_{43}N_2O_9S_2 * Na$	661Q-00
NHS-ester	867.96	$C_{43}H_{46}N_3O_{11}S_2 * Na$	661Q-01
Amino-derivative	790.99	$C_{41}H_{50}N_4O_8S_2$	661Q-02
Maleimide	893.01	$C_{45}H_{49}N_4O_{10}S_2 * Na$	661Q-03



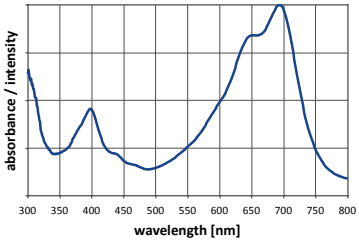


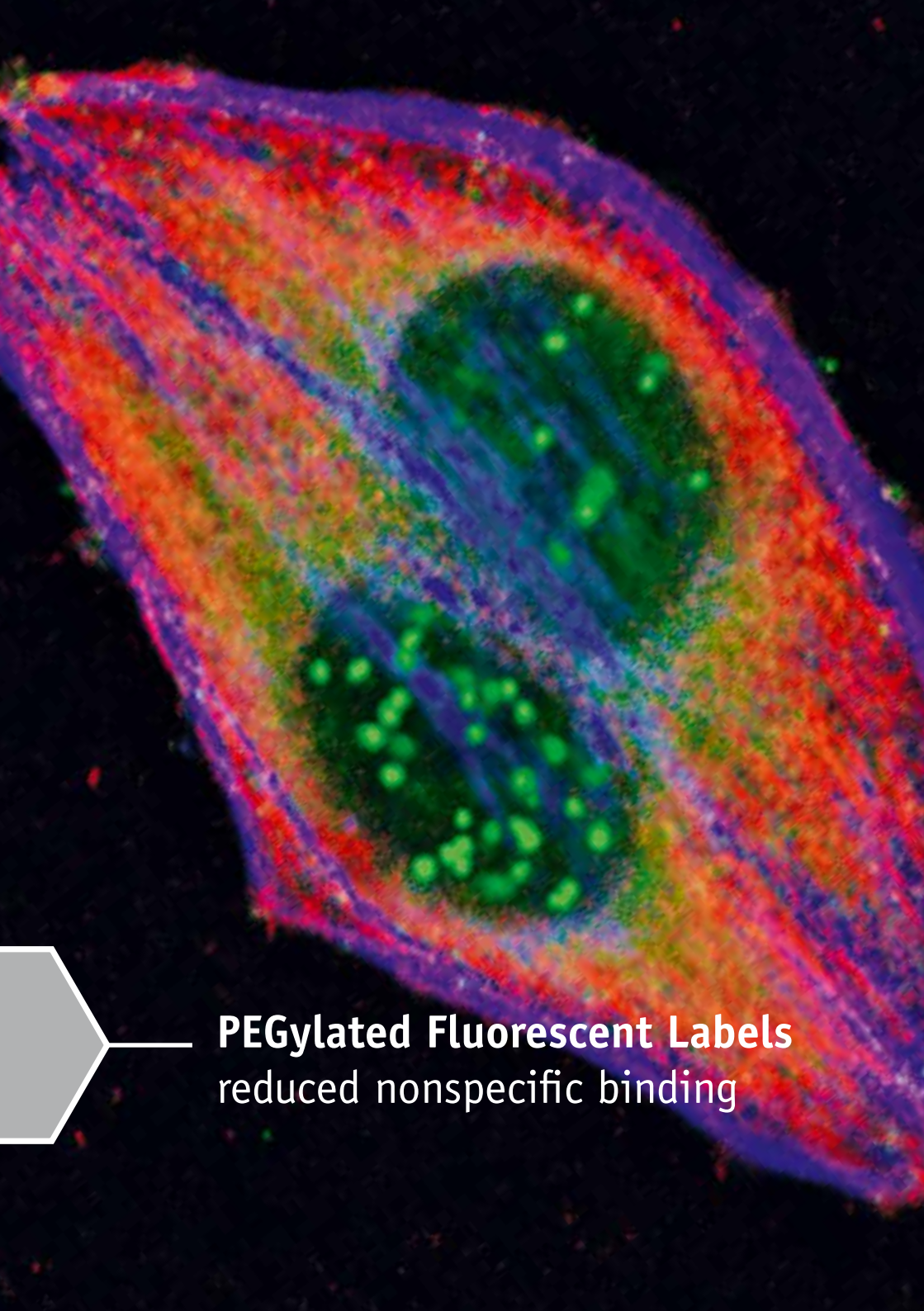
DYQ-700

Absorption max.:	691 nm (in PBS)
Molar absorbance:	58,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	808.89	$C_{39}H_{41}N_6O_8S_2$ * Na	700Q-00
NHS-ester	905.97	$C_{43}H_{44}N_7O_{10}S_2$ * Na	700Q-01
Amino-derivative	828.99	$C_{41}H_{48}N_8O_7S_2$	700Q-02
Maleimide	931.02	$C_{45}H_{47}N_8O_9S_2$ * Na	700Q-03

Structure on request





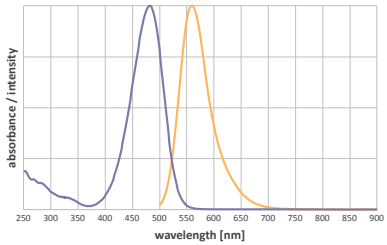
PEGylated Fluorescent Labels
reduced nonspecific binding

DY-485XLP4

Absorption/emission max.:	478 nm / 557 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	798.89	$C_{37}H_{54}N_2O_{15}S$	485XLP4-00
NHS-ester	895.97	$C_{41}H_{57}N_3O_{17}S$	485XLP4-01
Amino-derivative	877.44	$C_{39}H_{61}N_4O_{14}S * Cl$	485XLP4-02
Maleimide	921.02	$C_{43}H_{60}N_4O_{16}S$	485XLP4-03

Structure on request

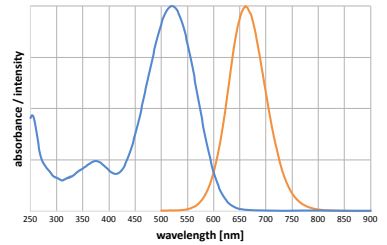


DY-520XLP4

Absorption/emission max.:	514 nm / 665 nm (in Ethanol)
Molar absorbance:	50,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	838.96	$C_{40}H_{58}N_2O_{15}S$	520XLP4-00
NHS-ester	936.03	$C_{44}H_{61}N_3O_{17}S$	520XLP4-01
Amino-derivative	917.50	$C_{42}H_{65}N_4O_{14}S * Cl$	520XLP4-02
Maleimide	961.08	$C_{46}H_{64}N_4O_{16}S$	520XLP4-03

Structure on request

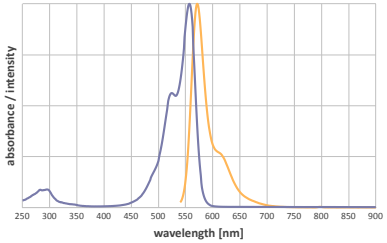


DY-547P4

Absorption/emission max.:	557 nm / 571 nm (in PBS)
Molar absorbance:	150,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1005.17	$C_{47}H_{69}N_2O_{16}S_2$ * Na	547P4-00
NHS-ester	1102.25	$C_{51}H_{72}N_3O_{18}S_2$ * Na	547P4-01
Amino-derivative	1025.28	$C_{49}H_{76}N_4O_{15}S_2$	547P4-02
Maleimide	1127.30	$C_{53}H_{75}N_4O_{17}S_2$ * Na	547P4-03

Structure on request

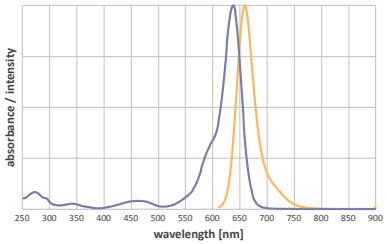


DY-631P4

Absorption/emission max.:	637 nm / 659 nm (in Ethanol)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1061.24	$C_{50}H_{73}N_2O_{17}S_2$ * Na	631P4-00
NHS-ester	1158.31	$C_{54}H_{76}N_3O_{19}S_2$ * Na	631P4-01
Amino-derivative	1081.34	$C_{52}H_{80}N_4O_{16}S_2$	631P4-02
Maleimide	1183.36	$C_{56}H_{79}N_4O_{18}S_2$ * Na	631P4-03

Structure on request

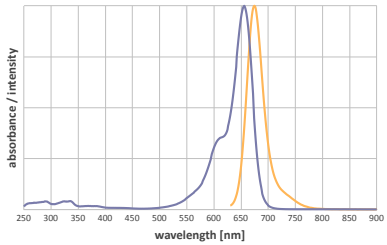


DY-647P4

Absorption/emission max.:	656 nm / 674 nm (in PBS)
Molar absorbance:	250,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1327.53	$C_{61}H_{95}N_2O_{24}S_2$ * Na	647P4-00
NHS-ester	1424.60	$C_{65}H_{98}N_3O_{26}S_2$ * Na	647P4-01
Amino-derivative	1347.63	$C_{63}H_{102}N_4O_{23}S_2$	647P4-02
Maleimide	1449.65	$C_{67}H_{101}N_4O_{25}S_2$ * Na	647P4-03

Structure on request

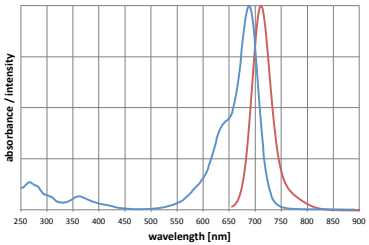


DY-679P4

Absorption/emission max.:	684 nm / 703 nm (in PBS)
Molar absorbance:	200,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1631.73	$C_{69}H_{97}N_2O_{30}S_4$ * 3 Na	679P4-00
NHS-ester	1728.81	$C_{73}H_{100}N_3O_{32}S_4$ * 3 Na	679P4-01
Amino-derivative	1651.83	$C_{71}H_{104}N_4O_{29}S_4$ * 2 Na	679P4-02
Maleimide	1753.86	$C_{75}H_{103}N_4O_{31}S_4$ * 3 Na	679P4-03

Structure on request

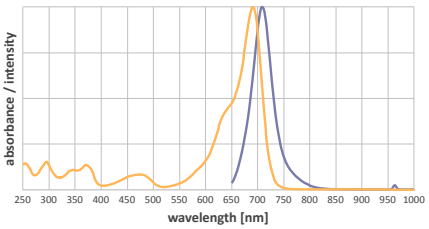


DY-681P4

Absorption/emission max.:	690 nm / 709 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1061.24	$C_{50}H_{73}N_2O_{17}S_2$ * Na	681P4-00
NHS-ester	1158.31	$C_{54}H_{76}N_3O_{19}S_2$ * Na	681P4-01
Amino-derivative	1081.34	$C_{52}H_{80}N_4O_{16}S_2$	681P4-02
Maleimide	1183.36	$C_{56}H_{79}N_4O_{18}S_2$ * Na	681P4-03

Structure on request

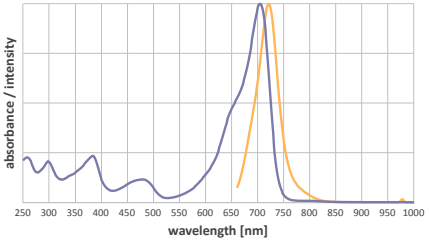


DY-703P4

Absorption/emission max.:	704 nm / 722 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1125.28	$C_{54}H_{73}N_2O_{18}S_2$ * Na	703P4-00
NHS-ester	1222.35	$C_{58}H_{76}N_3O_{20}S_2$ * Na	703P4-01
Amino-derivative	1145.38	$C_{56}H_{80}N_4O_{17}S_2$	703P4-02
Maleimide	1247.40	$C_{60}H_{79}N_4O_{19}S_2$ * Na	703P4-03

Structure on request

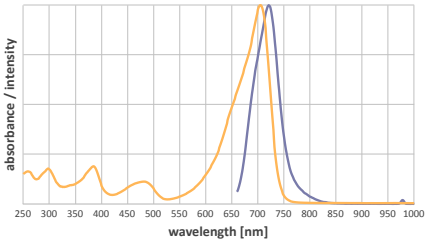


DY-704P4

Absorption/emission max.:	705 nm / 721 nm (in Ethanol)
Molar absorbance:	140,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1227.32	$C_{54}H_{72}N_2O_{21}S_3$ * 2 Na	704P4-00
NHS-ester	1324.40	$C_{58}H_{75}N_3O_{23}S_3$ * 2 Na	704P4-01
Amino-derivative	1247.43	$C_{56}H_{79}N_4O_{20}S_3$ * Na	704P4-02
Maleimide	1349.45	$C_{60}H_{78}N_4O_{22}S_3$ * 2 Na	704P4-03

Structure on request

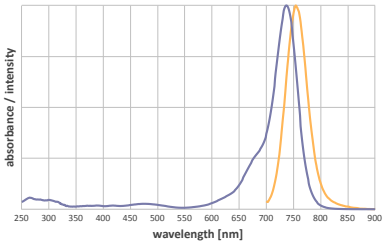


DY-731P4

Absorption/emission max.:	737 nm / 754 nm (in Ethanol)
Molar absorbance:	220,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1087.27	$C_{52}H_{75}N_2O_{17}S_2$ * Na	731P4-00
NHS-ester	1184.35	$C_{56}H_{78}N_3O_{19}S_2$ * Na	731P4-01
Amino-derivative	1107.38	$C_{54}H_{82}N_4O_{16}S_2$	731P4-02
Maleimide	1209.40	$C_{58}H_{81}N_4O_{18}S_2$ * Na	731P4-03

Structure on request

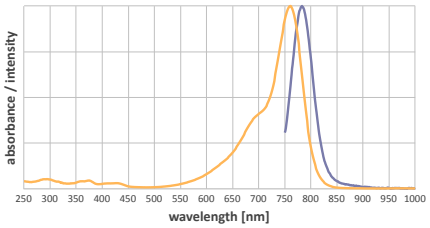


DY-747P4

Absorption/emission max.:	756 nm / 776 nm (in PBS)
Molar absorbance:	240,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1353.56	$C_{63}H_{97}N_2O_{24}S_2$ * Na	747P4-00
NHS-ester	1450.64	$C_{67}H_{100}N_3O_{26}S_2$ * Na	747P4-01
Amino-derivative	1373.66	$C_{65}H_{104}N_4O_{23}S_2$	747P4-02
Maleimide	1475.69	$C_{69}H_{103}N_4O_{25}S_2$ * Na	747P4-03

Structure on request

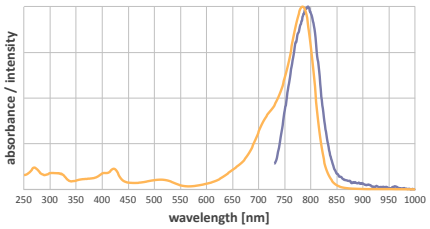


DY-781P4

Absorption/emission max.:	784 nm / 795 nm (in Ethanol)
Molar absorbance:	170,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1087.28	$C_{52}H_{75}N_2O_{17}S_2$ * Na	781P4-00
NHS-ester	1184.35	$C_{56}H_{78}N_3O_{19}S_2$ * Na	781P4-01
Amino-derivative	1107.38	$C_{54}H_{82}N_4O_{16}S_2$	781P4-02
Maleimide	1209.40	$C_{58}H_{81}N_4O_{18}S_2$ * Na	781P4-03

Structure on request

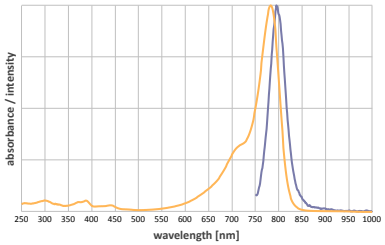


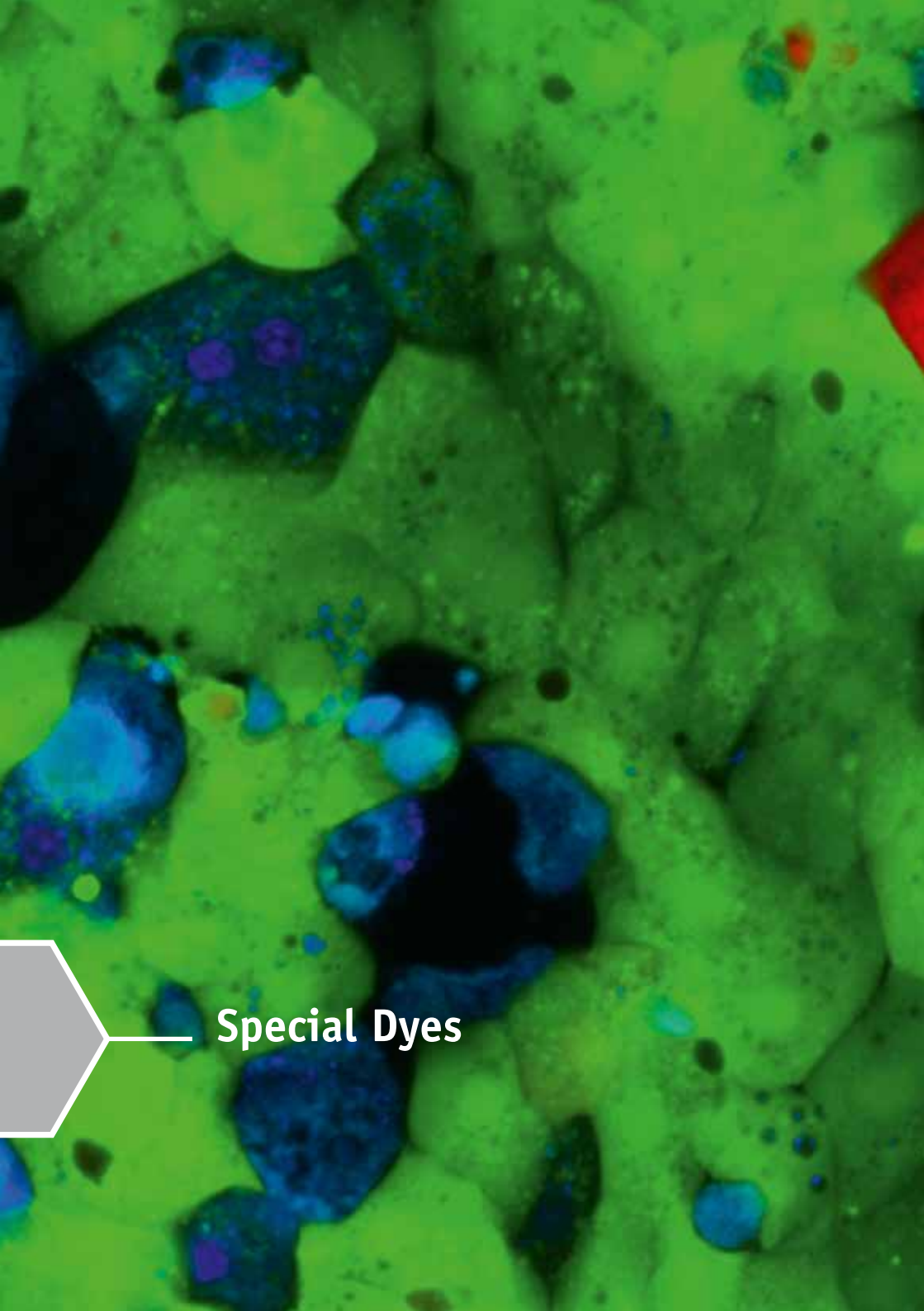
DY-800P4

Absorption/emission max.:	783 nm / 795 nm (in PBS)
Molar absorbance:	250,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	1587.77	$C_{72}H_{104}N_2O_{28}S_3$ * 2 Na	800P4-00
NHS-ester	1684.84	$C_{76}H_{107}N_3O_{30}S_3$ * 2 Na	800P4-01
Amino-derivative	1607.87	$C_{74}H_{111}N_4O_{27}S_3$ * Na	800P4-02
Maleimide	1709.89	$C_{78}H_{110}N_4O_{29}S_3$ * 2 Na	800P4-03

Structure on request





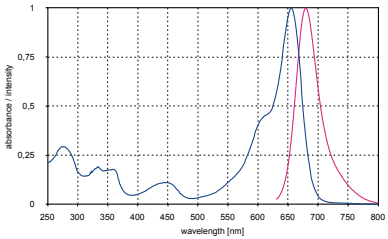
Special Dyes

FatRed

Absorption/emission max.:	656 nm / 680 nm (in Ethanol)
Molar absorbance:	95,000 $M^{-1}cm^{-1}$
Comments: – soluble in methanol, ethanol, DMF, DMSO	

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
697.88	$C_{41}H_{51}N_3O_7$	FatRed-00

Structure on request

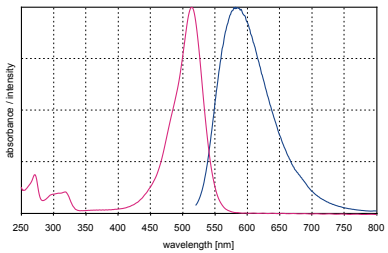


Stain01

Absorption/emission max.:	513 nm / 580 nm (in Ethanol)
Molar absorbance:	120,000 $M^{-1}cm^{-1}$
Comments: – soluble in water, methanol, ethanol, DMF, DMSO	

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
751.94	$C_{37}H_{50}N_3O_8S_2 * Na$	Stain01-00

Structure on request

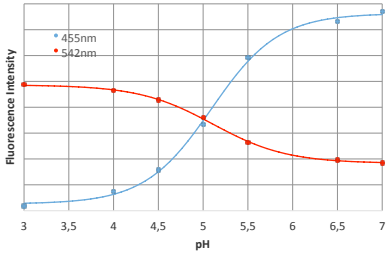


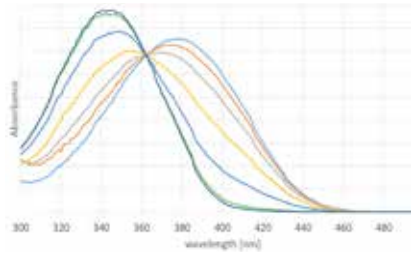
DY-344IN

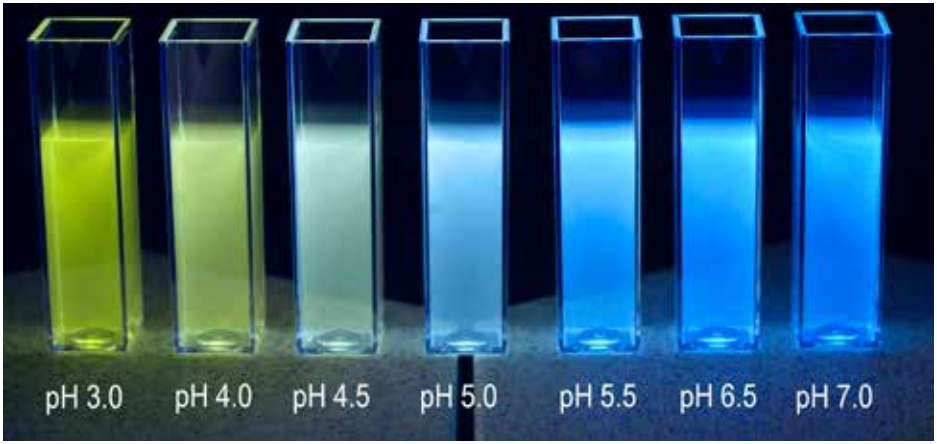
Absorption/emission max.:	387 nm / 549 nm protonated form at pH 3
Molar absorbance:	27,000 $M^{-1}cm^{-1}$

Comments:
- soluble in water, methanol, ethanol, DMF, DMSO
- fluorescence indicator, pKs 5.1, bright fluorescence in both forms
- deprotonated form with absorption/ emission max. 342 nm/ 455 nm

Available Modification	Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
Carboxylic acid	454.42	$C_{20}H_{19}N_2O_7S * Na$	344IN-00
NHS-ester	551.50	$C_{24}H_{22}N_3O_9S * Na$	344IN-01
Amino-derivative	474.53	$C_{22}H_{26}N_4O_6S$	344IN-02
Maleimide	576.55	$C_{26}H_{25}N_4O_8S * Na$	344IN-03





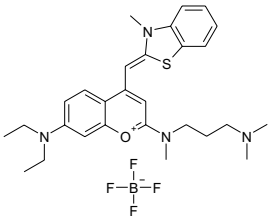


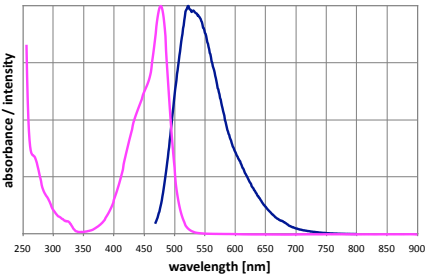
V02-07027

Absorption/emission max.:	477 nm / 522 nm (in Ethanol)
Molar absorbance:	70,000 $M^{-1}cm^{-1}$

Comments:
– soluble in acetone, ethanol, DMF, DMSO
– suitable as DNA-stain

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
564.50	$C_{28}H_{37}N_4OS * BF_4$	V02-07027



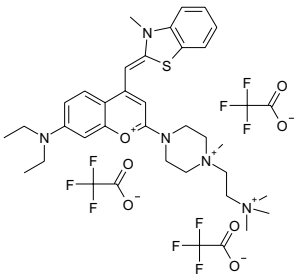


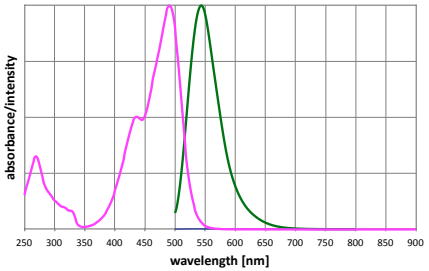
V02-08078

Absorption/emission max.:	492 nm / 537 nm (in Ethanol)
Molar absorbance:	90,000 M-1cm-1

Comments:
– soluble in acetone, ethanol, DMF, DMSO
– suitable as DNA-stain

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
887.88	$C_{32}H_{46}N_5OS * 3\ C_2F_3O_2$	V02-08078



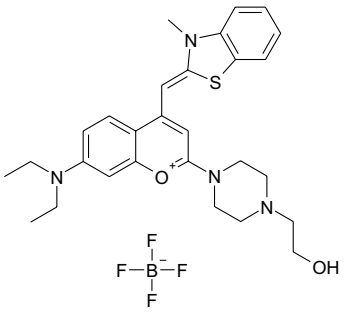


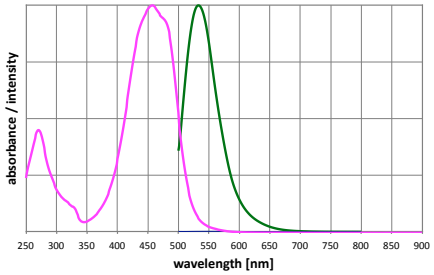
V13-01184

Absorption/emission max.:	481 nm / 526 nm (in Ethanol)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
- soluble in acetone, ethanol, DMF, DMSO
- suitable as DNA-stain

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
578.48	$C_{28}H_{35}N_4O_2S * BF_4$	V13-01184





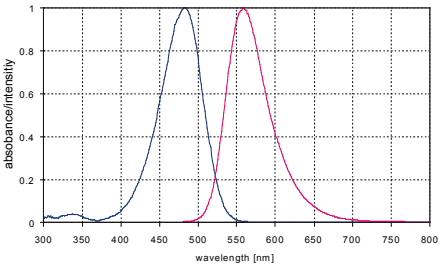
MitoDy-1

Absorption max.:	485 nm (in Ethanol)
Emission max.:	558 nm (in Ethanol)
Molar absorbance:	62,000 $M^{-1}cm^{-1}$ (in Ethanol)

Comments:
- nonpolar MegaStokes Dye for multi-colour-detection
- Hydroxy-substituted as precursor for phosphoramidite
- selective staining of mitochondria

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
440.24	$C_{21}H_{25}N_2O_3 * BF_4$	MTD-1

Structure on request

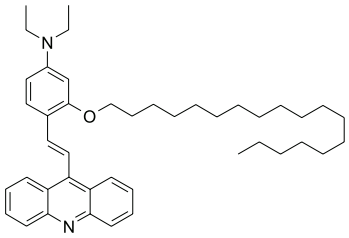


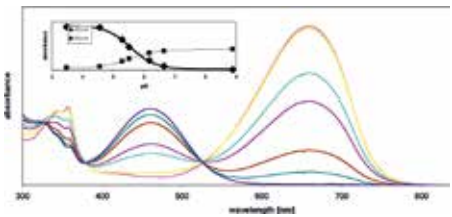
DY-660-SL

Absorption max.:	665 nm (in Ethanol)
Molar absorbance:	20,000 $M^{-1}cm^{-1}$

Comments:
– soluble in ethanol, acetonitrile, DMF, DMSO

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
620.96	$C_{43}H_{60}N_2O$	660-SL-00



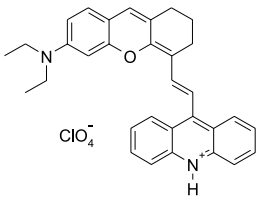


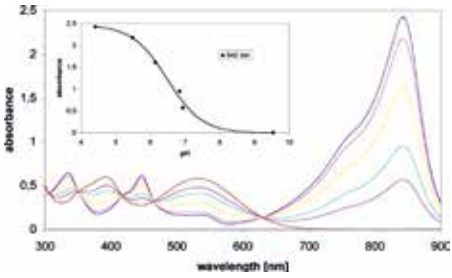
DY-840-S

Absorption max.:	840 nm (in Ethanol)
Molar absorbance:	65,000 $M^{-1}cm^{-1}$

Comments:
– soluble in ethanol, acetonitrile, DMF, DMSO

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
559.01	$C_{32}H_{31}N_2O \cdot ClO_4$	840-S-00



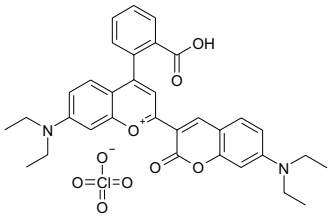


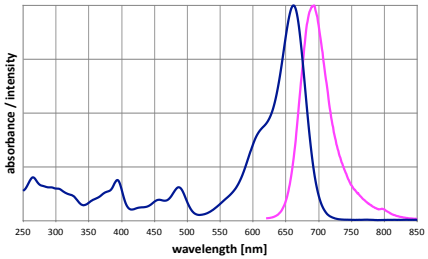
DY-660-X

Absorption/emission max.:	662 nm / 693 nm (in Dichloromethane)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
– soluble in dichloromethane, acetonitrile, DMF, DMSO

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
637.09	$C_{33}H_{33}N_2O_5 \cdot ClO_4$	660-X



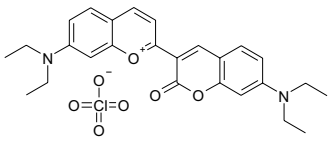


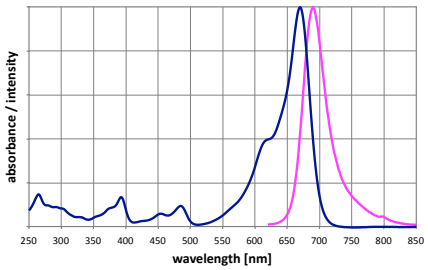
DY-665-X

Absorption/emission max.:	670 nm / 690 nm (in Dichloromethane)
Molar absorbance:	80,000 $M^{-1}cm^{-1}$

Comments:
– soluble in dichloromethane, acetonitrile, DMF, DMSO

Molecular weight (g · mol^{-1})	Molecular formula	Productnumber
516.98	$C_{26}H_{29}N_2O_3 \cdot ClO_4$	665-X





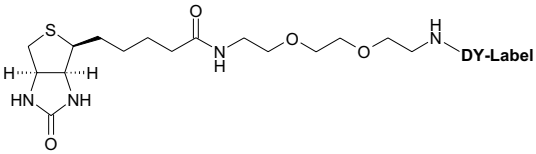
Haptens

Dyomics offers a wide range of labeled haptens like biotin, phalloidin, mycotoxins, amino acids or nucleotides. These haptens can easily be coupled to all of our fluorescent labels.
If you have need for a special hapten please ask us. We will do the coupling with our superior dyes.

Fluorescently labeled biotins

The binding pairs streptavidin – avidin / biotin or antibody / antigen are very common in cellbiology and molecular biology in applications like in situ hybridisation, histochemistry or flow cytometry. With such systems it is possible to probe poor detectable molecules.

The building block for preparing biotin – DY-dye – conjugates is the biotin-PEO3-amine. PEO3 is a spacer consisting of ethyleneglycol units. This spacer between the biotin and the dye separates the biotin moiety from its point of attachment, enhances the ability to bind to the binding sites of avidin or streptavidin and improves the hydrophilic character of the biotin conjugate.

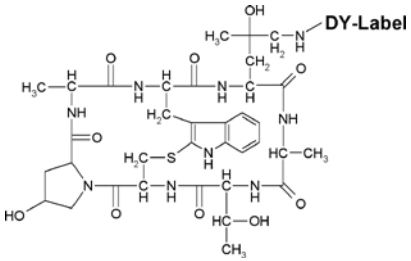


Unit size
500 µg (higher amounts on request)

Fluorescently labeled phalloidins

Phalloidin binds very selectively to actin and allows the generation of impressive images in combination with a fluorophor. 300 units (the standard sales unit) are sufficient for staining 300 microscopy slides. Methanol is an appropriate solvent for the labeled phalloidins.

For all our labels phalloidin-conjugates are available. Please add –33 to the order number of the dye of your choice.



Unit size
10 nmol/300 units (higher amounts on request)

Fluorescently labeled proteins

Fluorescently labeled streptavidin

We offer streptavidin conjugates of all our DY-labels and MegaStokes-Dyes. Each streptavidin conjugate will be delivered with a batch specific absorption spectrum. The conjugates will be shipped in PBS, pH 7.5, 100 mM at a concentration of 1 mg/ml.

Unit size	1 mg at 1 mg/ml (higher amounts on request)

Fluorescently labeled antibodies for secondary detection

Secondary antibodies are very common in applications like fluorescence microscopy and flow cytometry. Dyomics offers several fluorescently labeled polyclonal antibodies for secondary detection, among them

– goat anti-rabbit IgG
– goat anti-mouse IgG &
– goat anti-human IgG

(all affinity purified, H&L). The IgGs will be delivered dissolved in PBS, pH 7.5, 100 mM at a concentration of 1 mg/ml. A batch specific absorption spectrum will be provided.

Unit size	1 mg at 1 mg/ml (higher amounts on request)

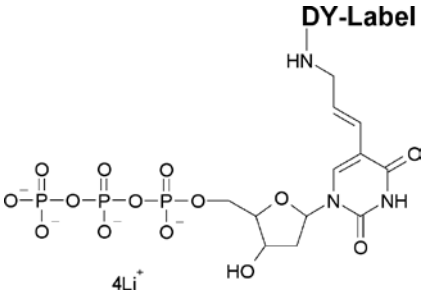
Others

If you need an antibody or another protein not listed in this catalogue feel free to contact Dyomics.
We can assist you in finding a supplier and we can arrange the import, too. Thus, Dyomics can act as a one stop source for your secondary detection reagents.

Fluorescently labeled nucleotides

For all our labels aminoallyl-conjugates are available. Please add –34 to the order-number of the dye of your choice.

Unit size	100 µl
Concentration	1 mM aqueous solution
Product-number	XXX-34



Protocols

Recommendations / instructions for the labeling of proteins with NHS-esters

Preface:

Fluorescently labelled antibodies are versatile tools in bioanalytics and medical diagnostics. They find their use, among others, in technologies like fluorescence microscopy, flow cytometry, protein microarrays and microtiter plate based detection schemes. There are many suppliers for labelled antibodies, and even more for unconjugated proteins. Kits for the labelling of proteins are also available from various sources. One crucial issue, especially in academic institutions, is the price of the kits or conjugated proteins which is prohibitive for some experiments. The following instructions want to describe an economic method of labelling proteins with simple recipies and instrumentation which allow a full control of all ongoing processes.

The recipes:

Sodium bicarbonate buffer for dialysis and labelling (10x /500 mM)
Dissolve 21 g (250 mmol) of sodium hydrogen carbonate in 400 ml distilled water. Add 1 g of sodium azide (0.2 per cent, works as bacteriozide). Adjust the pH with a concentrated aqueous solution of sodium hydroxide to pH 8.3. Prior to use, dilute the buffer by adding 9 parts water to one part of the concentrated stock solution (v/v).

100 mM PBS-buffer pH 7.4 for elution and storage
Dissolve 2.19 g sodium dihydrogen phosphate ($NaH_2PO_4 \cdot H_2O$, 15.9 mmol), 14.97 g disodium hydrogen phosphate ($Na_2HPO_4 \cdot 2H_2O$, 84.1 mmol), 5.8 g sodium chloride (100 mmol) and 0.32 g sodium azide in 1 l distilled water.

Additional materials and instruments required:

- *Protective gloves*
- *1 pipet 0.5–10 µl and corresponding tips (white)*
- *1 pipet 10–100 µl and corresponding tips (yellow)*
- *Centrifuge for Eppendorf vials*
- *Ultrasonification bath (recommended, but not required)*
- *1 Pasteur pipet*
- *Dry DMF (e.g. Fluka PO-no. 40228)*
- *Sephadex G-25 medium (GE Healthcare)*
- *Column for size exclusion chromatography (e.g. 5 ml or 10 ml graduated pipettes)*
- *Silanized glass fiber wadding (e.g. Macherey & Nagel PO-no. 718 002)*
- *1 glass bar (at least as long as the column)*
- *4 beakers (size can vary)*
- *1 tripod with clamp*
- *Shaker for Eppendorf tubes*
- *2 Eppendorf vials (1.5 ml)*
- *UV-spectrometer*

Only when dialysis is required:
- *QuixSep Micro dialyzer (Orange Scientific n.v./s.a./ Belgium)*
- *Dialyzing membrane (also avaibable from Orange Scientific)*
- *Magnetic stirrer*
- *Stirring bar*

Safety remark:
Always wear protective gloves, lab coat and splash goggles for your personal safety when following the instructions below. In addition, make yourself familiar with the MSDSs which come with the products and chemicals.

Antibody preparation:
Commercially available proteins are usually supplied in aqueous buffer or lyophilised from it. It is essential for a successful labelling reaction that there are no primary or secondary amines present in the reaction solution (otherwise the amine containing buffer components would be labelled instead of the target protein). Thus it is highly recommended to remove buffer components like Tris or ammonia by dialysis against the labelling buffer (50 mM sodium hydrogen carbonate, see recipe above). The QuixSep microdialyzer chamber (see http://www.orangesci.com/dialqs.htm for detailed instructions) offers therefore a convenient procedure which is also suitable for low volumes ranging from 100 µl up to 5 ml. Simply fill your protein solution into the dialysis chamber, place a dialysis membrane which was allowed to equilibrate in the labelling buffer for a few minutes on it and fix it by pushing the collar over it. Dialysis can now be done in a 250 ml beaker against the labelling buffer under constant stirring with a magnetic stirrer. Exchange the labelling buffer twice within three hours. Collect the protein solution from the vial by piercing a pipet through the membrane, aspirating the sample and placing it into an Eppendorf vial. Now you have your protein ready for the labelling reaction.
If you are sure that there are no amines present in your protein solution you can also simply add an appropriate volume of the labelling buffer stock solution to your protein to adjust the pH around 8.3.

To enable a batch-to-batch consistency of the degree of labelling, it is necessary to keep the dye to protein ratio constant for each labelling reaction. The following calculation is an example for the use of DY-647-NHS-ester (MW 761.85 $g \cdot mol^{-1}$, 1 mg) for labelling 1 mg of an IgG (MW 150,000 $g \cdot mol^{-1}$). Notwithstanding the fact that an optimal degree of labelling depends on the individual application for the conjugate and can require optimisation, a sixfold molar excess of dye for the labelling reaction is a good value to start with.
The molar ratio between 1 mg dye and 1 mg antibody is 197 (150,000 / 761.85). In order to work with volumes lower than 100 µl, 98.5 µl DMF (197 / 2) should be given into the plastic vial containing the 1 mg of DY-647-NHS-ester. To assist proper dissolving of the NHS-ester you can vortex the vial. Alternatively, ultrasonification of the solution for a couple of seconds is also a convenient way to dissolve the reactive dye. It can happen that some solvent and dye is contained in the screw cap of the vial. This material can be recovered by shortly centrifuging the vial.
DMF is superior to the more common DMSO as solvent for reactive dyes for several reasons. It is less hygroscopic, has a lower boiling point (which is important if you want to remove the solvent again from unused dye in a speedvac), and often dyes are better soluble in it. These advantages should override fears about the toxicity of this versatile solvent.

To start the labelling reaction, transfer 3 µl of the NHS-ester solution to the IgG in the reaction buffer. If you can control the concentration of the protein, a concentration of 5 mg/ml is recommended. In our case, the 1 mg IgG should have been dissolved in 200 µl of 50 mM bicarbonate buffer. Lower concentrations lead to a reduced labelling efficiency due to the fact that the hydrolysis of the NHS-ester competes the labelling reaction, and the less protein is present the more the hydrolysis dominates.
Allow the labelling to be done in the Eppendorf vial placed in a shaker over the course of two hours. After this time, the NHS-ester should be either bound to the protein or have been hydrolized which makes the use of a stopping reagent obsolete.

The Sephadex G-25 medium is a classic gel filtration material. Upon addition of elution buffer, it swells by a factor of five in volume. Thus, it is recommended to put at least 6 ml of elution buffer onto 1.2 g Sephadex in a beaker for filling a 5 ml-column. Double the amounts for a 10 ml column. A 5 ml-column is recommended for reaction solution volumes up to 250 µl. Please use a 10 ml-column for volumes up to 1 ml.
To prepare the size-exclusion chromatography column, fix the column vertically in the clamp of the tripod. Put a small amount of the silanized glass fiber wadding into the column and push it with the help of the glass bar to the small opening at the ground. The wadding allows the buffer to flow through it while it holds back the gel.
Now pipet once elution buffer into the column, immediately followed by the swollen gel in elution buffer which had been allowed before to equilibrate for at least one hour. Fill the column entirely with the gel and allow thereby the material to settle. If the Sephadex in the beaker runs dry due to the aspiration of the buffer, simply add some more of the elution buffer to liquidize the gel again. Keep a 1 cm region at the top of the column free of the gel.
Now transfer your coloured labelling solution slowly onto the column and allow it to sink into the gel. Wash your pipet carefully (or use a new one) to remove all traces of dye or protein which would contaminate your elution buffer. After the labelling solution has sunk fully into the column, start to elute the conjugate by slowly adding the elution buffer drop by drop onto the column. You can add bigger portions once there is a dye free zone on top of the column. When the reaction solution is eluated, you will see a separation between the labelled protein which runs ahead as a quite sharp band while the free dye is slowly smearing behind.
Once the conjugate arrives at the bottom of the column collect it in an Eppendorf vial. While selecting the size of the vial keep in mind that the volume of the protein conjugate solution increases by a factor of ca. 2.5 on the column. Dispose the used Sephadex gel after collecting the conjugate and wash the column. It would be very time-consuming to wash the free dye from the gel, and traces of it could impurify the next conjugate. It is really not worth the time, and the price for 1 g Sephadex is less than €3.

To characterize your protein conjugate solution it is recommended to record an absorption spectrum of it over the full wavelength range covering both the protein absorption at 280 nm as well as the maximum wavelength of the dye together with the shape of the dye's absorption band. Avoid thereby absorbance values exceeding "2" because such values are hard to interpret. Use cuvettes with smaller pathlengths instead or dilute a small fraction of your conjugate solution appropriately with the elution buffer, e.g. by a factor of 20.

A dye to protein (D/P) ratio can be calculated according to a formula derived from the combination of the Lambert-Beer law for 280 nm and the absorption maximum of the dye. A high uncertainty in this formula is the molar absorbance of the dye at its absorption maximum. Usually, the molar absorbance is determined in organic solvents because this parameter is concentration dependent in aqueous solution.
Thus, one can not be sure if the calculated D/P ratio reflects the experimental truth. The absorption spectrum over the full UV-Vis range is a more reliable analytical information and should be used to compare conjugates among each other.

The 95.5 µl of the DY-647-NHS-ester which remain from the reaction should be stored at -20°C. An exact shelf life of this solution can not be given. The most crucial factor for the stability of the NHS-ester is to protect if from humidity/moisture. Thus, allow the frozen vial to come completely to room temperature prior to opening it again. A simple test for the remaining activity of the dissolved reactive dye could be to couple it to a small amount (0.5 mg) of a cheap protein like bovine serum albumin (or, in times of BSE, streptavidin) according to the instructions given above when using the dye the first time. Later on, the coupling can be repeated, and the absorption spectrum of the conjugate gives an information about how the NHS-ester degraded over the storage time. In correspondence, the amount of NHS-ester can be adjusted for the labelling reaction with the desired protein.

When labelling proteins with colourless haptens like biotin-NHS-ester, a first coupling with a coloured dye and a cheap protein should be performed on the column whereby the volume of the eluent which leaves the column prior to the conjugate should be measured. Assuming that the elution times for proteins are nearly identical (an allowable assumption since it is about size exclusion chromatography), the same dead volume can be disposed prior to collecting the desired colourless conjugate in a second run on the same column with fresh Sephadex gel.

Services

Aside from our standard product portfolio we offer the customizing of fluorescent labels as well as the synthesis of conjugates on demand. Together with reliable partners we can supply fluorescently labeled DNA-oligonucleotides, fluorogenic, peptide-based enzyme substrates and fluorescently labeled small molecules such as ß-estradiole or nucleotides. Feel free to contact Dyomics for a quotation. We are sure that our cost/performance ratio will convince you.

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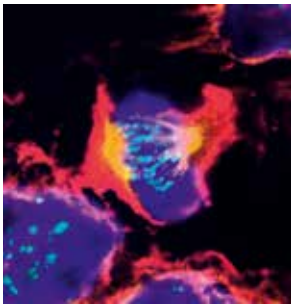

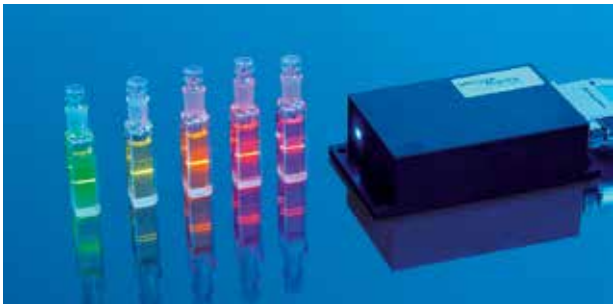

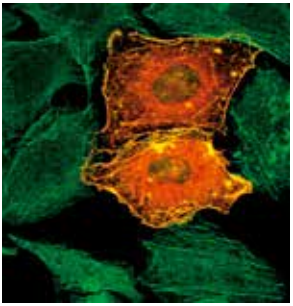

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