

Goat Anti–Mouse IgG Antibodies

Table 1. Contents and Storage Information.

| Material | Amount | Concentration | Storage Upon Receipt | Stability |
|--|--------|---|---|--|
| Whole antibodies | 0.5 mL | 2 mg/mL in 0.1 M sodium phosphate, 0.1 M NaCl, 5 mM sodium azide, pH 7.5 | <ul style="list-style-type: none"> • 2–6°C • Protect from light • Avoid freeze-thaw cycles | When stored undiluted as directed, products are stable for at least 3 months. |
| F(ab') ₂ Fragments | 250 µL | | | For longer storage, divide solution into single-use aliquots and freeze at ≤–20°C, which are stable for at least 6 months. |
| R-phycoerythrin (R-PE) conjugates | 1 mL | 1 mg/mL in 0.1 M sodium phosphate, 0.1 M NaCl, 5 mM sodium azide, pH 7.5 | <ul style="list-style-type: none"> • 2–6°C • Protect from light • DO NOT FREEZE | When stored undiluted as directed, products are stable for at least 3 months. |
| Allophycocyanin (APC) conjugates * | 0.5 mL | | | |
| Alexa Fluor® dye–R-PE and –APC tandem conjugates | 100 µL | 1 mg/mL in 0.1 M sodium phosphate, 0.1 M NaCl, 2 mM EDTA, 1% glycerol, 5 mM sodium azide, pH 7.5 † | | |
| BODIPY® FL whole antibody conjugates | 1 mg | Lyophilized powder from 0.1 M sodium phosphate, 0.1 M NaCl, 1.5% bovine serum albumin, 0.01% thimerosal, pH 7.5 | <ul style="list-style-type: none"> • ≤–20°C • Desiccate • Protect from light • Avoid freeze-thaw cycles | When stored as directed, products are stable for at least 6 months. |

* APC conjugates are prepared from chemically crosslinked APC to avoid dissociation of the molecule into subunits when highly diluted.¹ † May also contain 1% Prionex reagent as a stabilizer.

Spectral data: See Tables 2 and 3.

Introduction

Invitrogen offers an extensive line of goat anti–mouse IgG conjugates labeled with a wide selection of premium fluorescent dyes or with biotin (Table 2). We also offer goat anti–mouse IgG conjugated with fluorescent phycobiliproteins, R-phycoerythrin (R-PE) or allophycocyanin (APC), or with phycobiliprotein–dye “tandem” constructs² (Table 3).

Fluorescent anti–mouse IgG conjugates are ideal for fluorescence microscopy and confocal laser scanning microscopy, as well as for flow cytometry. In addition to conjugates of whole IgG antibodies, conjugates of F(ab')₂ fragments and highly cross-adsorbed whole antibodies are available in several fluorescent colors. Molecular Probes' strict quality control procedures and many years of experience in labeling antibodies guarantee that each conjugate provides optimal fluorescence.

In addition to the antibodies listed in this manual, Invitrogen prepares fluorescent conjugates of many other species-specific anti-IgG antibodies, as well as conjugates of avidin, streptavidin, NeutrAvidin™ biotin-binding protein, protein A, and protein G. For details, visit our website at probes.invitrogen.com or contact our Technical Support Department.

Whole Antibody Conjugates

The goat anti-mouse IgG whole antibody conjugates are prepared from affinity-purified antibodies that react with IgG heavy chains and all classes of immunoglobulin light chains from mouse. To minimize cross-reactivity, the goat anti-mouse IgG whole antibodies have been adsorbed against human IgG and human serum prior to conjugation. The degree of labeling for each conjugate is typically 2–8 fluorophore or biotin molecules per IgG molecule; the exact degree of labeling is indicated on the product label. At the time of preparation, the products are certified to be free of unconjugated dyes and are tested in a cytological experiment to ensure low nonspecific staining.

F(ab')₂ Fragment Conjugates

Conjugates of F(ab')₂ fragments are sometimes preferable to whole antibody conjugates for secondary detection, since the absence of the Fc region in F(ab')₂ fragments prevents interactions with Fc receptor-bearing membranes. The F(ab')₂ fragments are prepared from antibodies that have been adsorbed against human IgG and serum to minimize cross-reactivity. The degree of labeling for each conjugate is typically 2–6 fluorophore or biotin molecules per F(ab')₂ fragment; the exact degree of labeling is indicated on the product label.

Highly Cross-Adsorbed Whole Antibody Conjugates

For researchers interested in highly cross-adsorbed antibodies, we provide labeled goat anti-mouse IgG whole antibodies that have been adsorbed against bovine IgG, goat IgG, rabbit IgG, rat IgG, human IgG, and human serum. These highly cross-adsorbed antibodies may be useful in multilabeling experiments, or for labeling cells or tissues where nonspecific staining has been a problem. Because our highly cross-adsorbed antibodies have been adsorbed against rat IgG, they are particularly useful for detecting mouse IgG in rat tissues or cells and in experiments in which antibodies from mouse are being detected in the presence of antibodies from rat. Please note, however, that because rats and mice are closely related, the adsorption against rat IgG may have reduced the specificity of this goat anti-mouse IgG antibody preparation for certain mouse IgG subclasses. The degree of labeling for each conjugate is typically 2–8 fluorophore or biotin molecules per IgG molecule; the exact degree of labeling is indicated on the product label. At the time of preparation, the products are certified to be free of unconjugated dyes and are tested in a cytological experiment to ensure low nonspecific staining.

Guidelines for Use

Preparing BODIPY® FL Conjugates

After reconstitution with 0.5 mL deionized water, the BODIPY® FL product can be stored up to 2 weeks at 2–6°C. For longer storage, divide into single-use aliquots and freeze at ≤–20°C. Frozen aliquots are stable for at least 6 months.

Using Conjugate Solutions

Centrifuge the protein conjugate solution briefly in a microcentrifuge before use; add only the supernatant to the experiment. This step eliminates any protein aggregates that may have formed during storage, thereby reducing nonspecific background staining.

Because staining protocols vary with application, the appropriate dilution of antibody should be determined empirically. For the fluorophore- and biotin-labeled antibodies, including the

phycoerythrin-, allophycocyanin-, and tandem-labeled antibodies, a final concentration of 1–10 µg/mL should be satisfactory for most immunohistochemical applications.³ For flow cytometry applications, 0.06–1.0 µg per 1 × 10⁶ cells should yield satisfactory results.

Table 2. Goat anti-mouse IgG antibodies.

| Label | Ex * | Em * | Whole antibody † | Highly cross adsorbed ‡ | F(ab') ₂ fragment † |
|------------------------------------|------|------|------------------|-------------------------|--------------------------------|
| Unlabeled | NA | NA | A10535 | | A10534 |
| Biotin (Nonfluorescent) Conjugates | | | | | |
| Biotin-XX | NA | NA | B2763 | | B11027 |
| DSB-X™ biotin | NA | NA | D20690 | D20691 | D20692 |
| Fluorescent Dye Conjugates | | | | | |
| Alexa Fluor® 350 | 346 | 442 | A11045 | A21049 | A11068 |
| Marina Blue® | 365 | 460 | M10991 | | |
| Cascade Blue® | 400 | 420 | C962 | | |
| Pacific Orange™ | 400 | 551 | P31583 | P31586 | P31585 |
| Alexa Fluor® 405 | 402 | 421 | A31553 | | |
| Pacific Blue™ | 410 | 455 | P10993 | P31582 | P31581 |
| Alexa Fluor® 430 | 434 | 539 | A11063 | | |
| Fluorescein | 494 | 518 | F2761 | | F11021 |
| Alexa Fluor® 488 | 495 | 519 | A11001 | A11029 | A11017 |
| Oregon Green® 488 | 496 | 524 | O6380 | O11033 | |
| Alexa Fluor® 500 | 503 | 525 | A31554 | | |
| BODIPY® FL | 505 | 513 | B2752 | | |
| Oregon Green® 514 | 511 | 530 | O6383 | | |
| Alexa Fluor® 514 | 518 | 540 | A31555 | | |
| Alexa Fluor® 532 | 531 | 554 | A11002 | | |
| Cy3® | 552 | 570 | A10521 | | |
| Tetramethylrhodamine | 555 | 580 | T2762 | | |
| Alexa Fluor® 546 | 556 | 573 | A11003 | A11030 | A11018 |
| Alexa Fluor® 555 | 555 | 565 | A21422 | A21424 | A21425 |
| Rhodamine Red™-X | 570 | 590 | R6393 | | |
| Alexa Fluor® 568 | 578 | 603 | A11004 | A11031 | A11019 |
| Alexa Fluor® 594 | 590 | 617 | A11005 | A11032 | A11020 |
| Texas Red® | 595 | 615 | T862 | | |
| Texas Red®-X | 595 | 615 | T6390 | | |
| Alexa Fluor® 610 | 612 | 628 | A31550 | | |
| Alexa Fluor® 633 | 632 | 647 | A21050 | A21052 | A21053 |
| Alexa Fluor® 635 | 633 | 647 | A31574 | A31575 | |
| Cy5® | 649 | 670 | A10524 | | |
| Alexa Fluor® 647 § | 650 | 668 | A21235 | A21236 | A21237 |
| Alexa Fluor® 660 § | 663 | 690 | A21054 | A21055 | |
| Alexa Fluor® 680 § | 679 | 702 | A21057 | A21058 | A21059 |
| Alexa Fluor® 700 § | 702 | 723 | A21036 | | |
| Alexa Fluor® 750 § | 749 | 775 | A21037 | | |

* Approximate fluorescence excitation (Ex) and emission (Em) maxima, in nm, for conjugates. Complete spectra for most of these dyes are available at our website (probes.invitrogen.com). † Cross-adsorbed against human IgG and human serum. ‡ Whole antibody, cross-adsorbed against bovine IgG, goat IgG, rabbit IgG, human IgG and serum, and rat IgG. § Human vision is insensitive to light beyond ~650 nm, and therefore it is not possible to view the fluorescence of these dyes by looking through a conventional fluorescence microscope. NA = Not applicable.

Table 3. R-Phycoerythrin, allophycocyanin, and tandem conjugates of goat anti-mouse IgG antibodies.

| Label | Ex * | Em * | Cat. no. † | F(ab') ₂ fragment |
|---|-----------------|------|------------|------------------------------|
| R-Phycoerythrin (R-PE) and Tandem-R-PE Conjugates | | | | |
| R-Phycoerythrin | 496, 546, 565 ‡ | 578 | P852 | A10543 |
| Alexa Fluor® 610-R-PE | 496, 546, 565 ‡ | 630 | A20980 | |
| Alexa Fluor® 647-R-PE | 496, 546, 565 ‡ | 668 | A20990 | |
| Alexa Fluor® 680-R-PE | 496, 546, 565 ‡ | 702 | A20983 | |
| Allophycocyanin (APC) and Tandem-APC Conjugates | | | | |
| Allophycocyanin § | 650 | 660 | A865 | A10539 |
| Alexa Fluor® 680-APC § | 650 | 702 | A21000 | |
| Alexa Fluor® 750-APC § | 650 | 775 | A21006 | |
| *Approximate fluorescence excitation (Ex) and emission (Em) maxima, in nm, for conjugates. † Cross-adsorbed against human IgG and human serum. ‡ Multiple absorbance peaks. § Human vision is insensitive to light beyond ~650 nm, and therefore it is not possible to view the fluorescence of these dyes by looking through a conventional fluorescence microscope. | | | | |

References

1. Cytometry 8, 91 (1987); **2.** Our tandem constructs comprise a donor phycobiliprotein, such as R-PE or APC, coupled to a longer-wavelength light-emitting fluorescence acceptor. By the process of fluorescence resonance energy transfer (FRET), an energy transfer cascade is established wherein most of the light absorbed by the donor R-PE or APC results in fluorescence of the acceptor dye. This process can be quite efficient, resulting in almost total transfer of energy to the acceptor dye.; **3.** Short Protocols in Molecular Biology, 2nd Edition, F.M. Ausubel et al., Eds., John Wiley and Sons (1992) pp. 14-24–14-30.

Product List Current prices may be obtained from our website or from our Customer Service Department.

| Cat. no. | Product Name | Unit Size |
|----------|--|-----------|
| A11045 | Alexa Fluor® 350 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21049 | Alexa Fluor® 350 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A31553 | Alexa Fluor® 405 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11063 | Alexa Fluor® 430 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11017 | Alexa Fluor® 488 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A11001 | Alexa Fluor® 488 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11029 | Alexa Fluor® 488 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A31554 | Alexa Fluor® 500 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A31555 | Alexa Fluor® 514 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11002 | Alexa Fluor® 532 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11018 | Alexa Fluor® 546 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A11003 | Alexa Fluor® 546 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11030 | Alexa Fluor® 546 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A21425 | Alexa Fluor® 555 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A21422 | Alexa Fluor® 555 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21424 | Alexa Fluor® 555 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A11019 | Alexa Fluor® 568 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A11004 | Alexa Fluor® 568 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11031 | Alexa Fluor® 568 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A11020 | Alexa Fluor® 594 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A11005 | Alexa Fluor® 594 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A11032 | Alexa Fluor® 594 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A31550 | Alexa Fluor® 610 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |

| | | |
|--------|---|--------|
| A20980 | Alexa Fluor® 610–R-phycoerythrin goat anti-mouse IgG (H+L) *1 mg/mL* | 100 µL |
| A21053 | Alexa Fluor® 633 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A21050 | Alexa Fluor® 633 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21052 | Alexa Fluor® 633 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A31574 | Alexa Fluor® 635 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A31575 | Alexa Fluor® 635 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A21237 | Alexa Fluor® 647 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A21235 | Alexa Fluor® 647 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21236 | Alexa Fluor® 647 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A20990 | Alexa Fluor® 647–R-phycoerythrin goat anti-mouse IgG (H+L) *1 mg/mL* | 100 µL |
| A21054 | Alexa Fluor® 660 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21055 | Alexa Fluor® 660 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A21059 | Alexa Fluor® 680 F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| A21057 | Alexa Fluor® 680 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21058 | Alexa Fluor® 680 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A21000 | Alexa Fluor® 680–allophycocyanin goat anti-mouse IgG (H+L) *1 mg/mL* | 100 µL |
| A20983 | Alexa Fluor® 680–R-phycoerythrin goat anti-mouse IgG (H+L) *1 mg/mL* | 100 µL |
| A21036 | Alexa Fluor® 700 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21037 | Alexa Fluor® 750 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A21006 | Alexa Fluor® 750–allophycocyanin goat anti-mouse IgG (H+L) *1 mg/mL* | 100 µL |
| A865 | allophycocyanin, crosslinked, goat anti-mouse IgG (H+L) *1 mg/mL* | 0.5 mL |
| A10539 | allophycocyanin, crosslinked, F(ab') ₂ fragment of goat anti-mouse (H+L) *1 mg/mL* | 250 µL |
| B11027 | biotin-XX F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| B2763 | biotin-XX goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| B2752 | BODIPY® FL goat anti-mouse IgG (H+L) | 1 mg |
| C962 | Cascade Blue® goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A10521 | Cy3® goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A10524 | Cy5® goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| D20692 | DSB-X™ biotin F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| D20690 | DSB-X™ biotin goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| D20691 | DSB-X™ biotin goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| A10534 | F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| F11021 | fluorescein F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| F2761 | fluorescein goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A10535 | goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| G21061 | goat anti-mouse IgG (H+L), CMNB-caged fluorescein conjugate *2 mg/mL* | 250 µL |
| M10991 | Marina Blue® goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| O6380 | Oregon Green® 488 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| O11033 | Oregon Green® 488 goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| O6383 | Oregon Green® 514 goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| P31581 | Pacific Blue™ F(ab') ₂ fragment of goat anti-mouse IgG (H+L) | 250 µL |
| P10993 | Pacific Blue™ goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| P31582 | Pacific Blue™ goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| P31585 | Pacific Orange™ F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *2 mg/mL* | 250 µL |
| P31583 | Pacific Orange™ goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| P31586 | Pacific Orange™ goat anti-mouse IgG (H+L) *highly cross-adsorbed* *2 mg/mL* | 0.5 mL |
| R6393 | Rhodamine Red™-X goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| A10543 | R-phycoerythrin F(ab') ₂ fragment of goat anti-mouse IgG (H+L) *1 mg/mL* | 250 µL |
| P852 | R-phycoerythrin goat anti-mouse IgG (H+L) *1 mg/mL* | 1 mL |
| T2762 | tetramethylrhodamine goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| T862 | Texas Red® goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |
| T6390 | Texas Red®-X goat anti-mouse IgG (H+L) *2 mg/mL* | 0.5 mL |

Contact Information

Molecular Probes, Inc.

29851 Willow Creek Road
Eugene, OR 97402
Phone: (541) 465-8300
Fax: (541) 335-0504

Customer Service:

6:00 am to 4:30 pm (Pacific Time)
Phone: (541) 335-0338
Fax: (541) 335-0305
probesorder@invitrogen.com

Toll-Free Ordering for USA:

Order Phone: (800) 438-2209
Order Fax: (800) 438-0228

Technical Service:

8:00 am to 4:00 pm (Pacific Time)
Phone: (541) 335-0353
Toll-Free (800) 438-2209
Fax: (541) 335-0238
probestech@invitrogen.com

Invitrogen European Headquarters

Invitrogen, Ltd.
Inchinnan Business Park
3 Fountain Drive
Paisley PA4 9RF, UK
Phone: +44 (0) 141 814 6100
Fax: +44 (0) 141 814 6260
Email: euroinfo@invitrogen.com
Technical Services: eurotech@invitrogen.com

**For country-specific contact information,
visit www.invitrogen.com.**

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