Supplementary Table

Family name	Gene Name	best gene model	cDNA cluster	cDNA clone	Full insert cDNA sequence	best hit gene by bidirectional blastp	⇄	EST expression profile
inwardly rectifying K+ channel	Ci-GIRKB	ci0100132443	15880	cilv017e15-20	NA	IPI:IPI00298865.1| G protein-activated inward rectifierpotassium channel 4	→	larvae +, young adult +, neural complex +++, heart +++, blood cell +,
inwardly rectifying K+ channel	Ci-GIRKA	ci0100138554	NA	NA	NA	IPI:IPI00298865.1| G protein-activated inward rectifierpotassium channel 4	⇔	
inwardly rectifying K+ channel	Ci-Kir1/4/7	ci0100140796	15876	citb041b04_20	NA	IPI:IPI00171694.1| Inward rectifierpotassium channel Kir2.2	→	young adult +, blood cell +,
inwardly rectifying K+ channel	Ci-Kir2/5	ci0100152816	4817	ciad043n06_20	NA	IPI:IPI00007614.1| Inward rectifier potassium channel 2	⇔	eggs +, cleaving embryos ++++, gastrulae & neurulae ++, tailbud embryos ++, larvae ++ young adult +, blood cell +++
TwoPore_potassium channel	Ci-TWIK1	ci0100153427	NA	NA	NA	IPI:IPI00329550.3| Two-pore domain potassium channelTREK-1	→	
TwoPore_potassium channel	Ci-TWIK2	grail.339.8.1+ci0100146576	NA	NA	NA	IPI:IPI00329550.3| Two-pore domain potassium channelTREK-1	→	
TwoPore_potassium channel	Ci-TWIK3	ci0100144276	5258	ciclˆ091l07	053m16(AK1142	IPI:IPI00217521.1| Splice isoform C of P57789 Potassium channelsubfamily K member 10	⇔	eggs++, cleaving embryos++++, gastrulae&neurulae+++, tailbud ++, gonad++, neura complex+++, heart+, blood cell+
TwoPore_potassium channel	Ci-TWIK4	ci0100137463	10003	cibd045g0	AK115665	IPI:IPI00181613.4| Splice isoform 2 of Q9NYG8 Potassiumchanne subfamily K member 4	→	larva+, young adults+, neural complex++, blood cell+
TwoPore_potassium channel	Ci-TWIK5	419.17.1+grail.419.16.1+grail.419.15.1_CiTWIK5(ci010013177	12740	cinc005e10	NA	IPI:IPI00014792.1 | Potassium channel subfamily K member 9 (Acid-sensitive potassium channel protein TASK-3) (TWIK-related	→	egg+, tailbud+, neural complex+, blood+
KCNQX	Ci-KCNQ1	ci0100148713	NA	NA	NA	IPI:IPI00382863.1| potassium voltage-gated channel,KQT-like subfamily member 1 isoform 3	⇔	
KCNQX	Ci-KCNQ2/3/4/5	ci0100143587	09892;03192	cieg03i15;	AK114467;AK114773	IPI:IPI00307113.4| potassium voltage-gated channel, KQT-like subfamily,member 5	⇔	eggs+
Kv channel	Ci-Kv1A	ci0100136949	NA	NA	NA	IPI:IPI00217447.2| Potassium voltage-gated channel subfamily Amember 3	⇔	
Kv channel	Ci-Kv1B	ci0100151175	30240	cinc034c24	NA	IPI:IPI00020983.1| Potassium voltage-gated channel subfamily Amember 1	→	Young adults, neural complex
Kv channel	Ci-Kv1C	ci0100139324	12049	cilv34c04	NA	IPI:IPI00217447.2| Potassium voltage-gated channel subfamily Amember 3	→	Tail bud, larvae
Kv channel	Ci-Kv4	ci0100136138	NA	NA	NA	IPI:IPI00303270.2| Potassium voltage-gated channel subfamily D member 2	⇔	
Kv channel	Ci-Kv2	ci0100147157	02618,10692	ciad01b0;cilv017l0	NA	IPI:IPI00033019.2| Potassium voltage-gated channel subfamily Bmember 1	⇔	larvae+,young adults+;neural complex+
Kv channel	Ci-Kvx	ci0100147129	13207	cilv26c23	AK115812	IPI:IPI00024330.2| Potassium voltage-gated channel subfamily Bmember 2	→	Larvae, young adults
Kv-beta subunit	Ci-Kvbeta	genewise.59.93.1	12438	cieg060l17	NA	IPI:IPI00218374.1| Splice isoform 2 of Q13303 Voltage-gatedpotassium channel beta-2 subunit	→	All stage; gonad
Ca-activated K channel	Ci-Slo	ci0100140798	6268	cieg14i12	NA	IPI:IPI00164387.1| Calcium-activated potassiumchannel	⇔	eggs +
Ca-activated K channel	Ci-Slack	ci0100133235+grail.155.20.1	34825	cibd030n07	NA	IPI:IPI00258967.2| similar to potassium channel subunit	⇔	blood cell +, gonad +
Ca-activated K channel	Ci-SK	ci0100141198	NA	NA	NA	IPI:IPI00301072.1| Small conductance calcium-activatedpotassium channe protein 2	⇔	N/A
Ca-activated K channel	Ci-BKB1	ci0100134799	7078	cicl21l23	AK114013, AK116704	IPI:IPI00299880.1| Potassium large conductancecalcium-activated channe beta 3a subunit	→	eggs +, cleaving embryos ++, gastrulae & neurulae +, tailbud embryos +, gonad +
Ca-activated K channel	Ci-BKB2	ci0100139872	NA	cieg04d17	NA	IPI:IPI00299880.1| Potassium large conductancecalcium-activated channe beta 3a subunit	⇔	N/A
Cyclic nucleotide gated channel	Ci-CNG2	ci0100134166	36304	cign052h19	NA	IPI:IPI00297656.3| cGMP-gated cation channel betasubunit	⇔	gastrulae & neurulae +
Cyclic nucleotide gated channel	Ci-CNG3	ci0100148773	902	citb089k05	NA	IPI:IPI00000812.1| Cyclic-nucleotide-gated cation channel alpha3	⇔	
Cyclic nucleotide gated channel	Ci-CNG1	ci0100150683	36043	cign013n16	NA	IPI:IPI00000812.1| Cyclic-nucleotide-gated cation channel alpha3	→	gastrulae & neurulae +
divergent channel loosely related both to CNG, HCN, Eag/erk/erg	Ci-eag/HCN/CNG-diverged_2	ci0100152282	08614 11542 06246	cieg48p23	NA	IPI:IPI00218428.1| cyclic nucleotide gated channel alpha 1	→	eggs +, testis +++++++, eggs++, cleaving embryos ++, gastrulae & neurulae +, gonad ++, blood cell +
hyperpolarization-activated cation channel	Ci-HCN3	ci0100130432	33424	cilv083o06	NA	IPI:IPI00218946.1| Potassium/sodium hyperpolarization-activatedcyclic nucleotide-gated channel 2	⇔	larvae +
hyperpolarization-activated cation channel	Ci-HCN1	ci0100145893	10613 33582	cits037j04_20,	AK116600	IPI:IPI00023164.1| Potassium/sodium hyperpolarization-activatedcyclic nucleotide-gated channel 4	→	larvae +, testis +++++, neural complex +, heart +
hyperpolarization-activated cation channel	Ci-HCN2	ci0100152577	11044	3f03,cits4	NA	IPI:IPI00218946.1 Potassium/sodium hyperpolarization-activatedcyclic nucleotide-gated channel 2	→	testis +++
divergent channel loosely related both to CNG, HCN, Eag/erk/erg	Ci-eag/HCN/CNG-diverged_3	ci0100152263	6807	ciad10g02	NA	IPI:IPI00299946.3| Potassium voltage-gated channel subfamily H member	→	larvae+, y.adults+
divergent channel loosely related both to CNG, HCN, Eag/erk/erg	Ci-eag/HCN/CNG-diverged_4	152131+152193, grail10.90.1	NA	NA	NA	IPI:IPI00218428.1| cyclic nucleotide gated channel alpha 1	→	
divergent channel loosely related both to CNG, HCN, Eag/erk/erg	Ci-eag/HCN/CNG-diverged_1	grail 10.93.1+152233	NA	NA	NA	IPI:IPI00218428.1| cyclic nucleotide gated channel alpha 1	→	
EAG/ELK/ERG	Ci-erg	ci0100153190	NA	NA	NA	IPI:IPI00299946.3| Potassium voltage-gated channel subfamily H member 7	⇔	

EAG/ELK/ERG	Ci-eag	ci0100147910	NA	NA	NA	IPI:IPI00220700.1| Splice isoform 3 of Q8NCM2 Potassiumvoltage-gatec channel subfamily H member 5	⇔	
EAG/ELK/ERG	Ci-elk	ci0100152246	NA	NA	NA	IPI:IPI00306984.1| Potassium voltage-gated channel subfamily Hmember 8	⇔	
EAG/ELK/ERG	Ci-eag/elk/erg	ci0100144186	NA	NA	NA	IPI:IPI00221201.1| Splice isoform 1 of O95259 Potassiumvoltage-gatec channel subfamily H member 1	→	
Nav channel	Ci-Nav4	ci0100153848	14613	cilv28c18	NA	IPI:IPI00218522.3| Splice isoform 3 of Q9NY46 Sodium channel proteir typeIII alpha subunit	→	larvae+
Nav channel	Ci-Nav3	ci0100132121	33713 ;32266	cicl105n17;cilv054	NA	IPI:IPI00377006.1| Sodium channel proteintype V alpha subunit	→	cleaving embryos, larvae++
Nav channel	Ci-Nav2	ci0100131256	10686	cilv067g20;	NA	IPI:IPI00218521.1| Splice isoform 2 ofQ9NY46 Sodium channel proteir type III alpha subunit	→	larvae++++, endostyle++++, neural complex+
Nav channel	Ci-Nav1	ci0100147650	7743	cilv051c04	cilv011p24 ; AK115651	IPI:IPI00154944.5| sodium channel,voltage-gated, type IX, alpha	⇔	tailbud+,larvae+++++,neural complex ++
voltage-dependent Ca channel alpha2delta subunit	Ci-Cav-a2d1	ci0100130412	5306	citb38i18	NA	IPI:IPI00306196.1| Dihydropyridine-sensitive L-type, calcium channelalpha-2/delta subunits precursor	→	eggs ++, cleaving embryos +, larvae +, blood cell +
voltage-dependent Ca channel alpha2/delta subunit	Ci-Cav-a2d2	ci0100136131	31228	cieg098m20	NA	IPI:IPI00302181.1| Calcium channel alpha2-delta3subunit	⇔	eggs+, gastrula&neurula +
voltage-dependent Ca channel gamma subunit	Ci-CavG1	ci0100133946	NA	NA	NA	IPI:IPI00029074.1| Voltage-dependent calcium channel gamma-3subunit	⇔	
voltage-dependent Ca channel beta subunit	Ci-CavB	ci0100134196	6432	ciad015i23	NA	IPI:IPI00000867.4| Splice isoform 2dof Q08289 Dihydropyridine-sensitive L-type, calciumchannel beta-2 subunit	⇔	eggs +, cleaving embryos++, gastrulae & neurulae +, tailbud embryos +, larvae +, young adults +, gonad +, neural complex +
voltage-dependent Ca channel alpha1 subunit	Ci-Cav1	ci0100130497(ci0100139162)	33197, 32909	citb049l12;cinc029	NA	IPI:IPI00216095.1| Splice isoformHHT-1 of Q13936 Voltage-dependent L-type calcium channelalpha-1C subunit	⇔	larva+, gonad+, neural complex++
voltage-dependent Ca channel alpha1 subunit	Ci-Cav2	ci0100151006	NA	rcieg072l01	NA	IPI:IPI00025477.2| Splice isoform Alpha-1B-1 of Q00975 Voltage-dependentN-type calcium channel alpha-1B subunit	⇔	
voltage-dependent Ca channel alpha1 subunit	Ci-Cav3	ci0100130061	14583	cign024l18	NA	IPI:IPI00219397.1| Splice isoform 8 ofO43497 Voltage-dependent T-type calcium channel alpha-1Gsubunit	⇔	gastrulae & neurulae +, tailbud embryos +, larvae +, gonad +, neural complex +
voltage-dependent Ca channel alpha1 subunit	Ci-4domain	ci0100135798	4734	rcinc030p13,	NA	IPI:IPI00217996.1|REFSEQ_NP:NP_443099|TREMBL:Q8IZZ1;Q8IZF0|ENSEMBL:ENSP00000280937 Tax_Id=9606 Putative 4 repeat voltage-	⇔	gastrulae & neurulae +larvae ++ young adults + heart ++
2domain_Ca_alpha channel	Ci-TPC1	ci0100150318	NA	rciad79i23/ no	NA	IPI:IPI00164366.2| Hypothetical proteinKIAA1169	⇔	
2domain_Ca_alpha channel	Ci-TPC2	ci0100130081+cicl085g08+citb16	7122	ciad27h13	NA	IPI:IPI00169371.1| Two-pore calcium channelprotein 2	⇔	egg, cleaving embryos, gastrulae&neurulae, tailbuds+ y. adults+,neural complex+, blood cell+
1 domain type voltage-gated cation channel	Ci-CatSper3	ci0100154208	NA	cits35n13	NA	IPI:IPI00256795.1| Putative one-repeat calciumchannel	⇔	
1 domain type voltage-gated cation channel	Ci-CatSper2	ci0100151165	NA	NA	NA	IPI:IPI00376192.1| similar toSalivary gland secretion 1 CG3047-PA	⇔	
1 domain type voltage-gated cation channel	Ci-CatSper1	ci0100144825	11005	ciad27h13	NA	IPI:IPI00172419.1| Putative ion channel protein CATSPER2 variant 1	⇔	sperm ++++++
amiloride-sensitive channel	Ci-ASIC/degenerin3	ci0100132238	35259	cibd059c21	NA	IPI:IPI00026554.1| Amiloride-sensitive sodium channel	⇔	gastrulae & neurulae +, blood cell +
amiloride-sensitive channel	Ci-ASIC/degenerin1	ci0100142380;ci0100136422	NA	NA	NA	IPI:IPI00333823.1| Hypothetical protein	→	
amiloride-sensitive channel	Ci-ASIC/degenerin5	ci0100141492	33806	cicl063h20	NA	IPI:IPI00026554.1| Amiloride-sensitive sodium channel	→	
amiloride-sensitive channel	Ci-ASIC/degenerin4	ci0100141513	NA	ciht011k12	NA	IPI:IPI00026554.1| Amiloride-sensitive sodium channel	→	
amiloride-sensitive channel	Ci-ASIC/degenerin2	ci0100138238+cieg004e16	4245	cieg004e16	AK114503	IPI:IPI00002807.1| Amiloride-sensitive brain sodium channel BNaC1	→	eggs +, cleaving embryos +
amiloride-sensitive channel	Ci-ASIC/degenerin6	ci0100147989	10904	ciad068f24	AK116462	IPI:IPI00293399.1| Splice isoform 2 of P78348Amiloride-sensitive brair sodium channel BNaC2	⇔	cleaving embryos +, larvae +++, young adults +
amiloride-sensitive channel	Ci-ASIC/degenerin7	ci0100147958	34403	citb083g14	NA	IPI:IPI00293399.1| Splice isoform 2 of P78348Amiloride-sensitive brair sodium channel BNaC2	→	tailbud embryos +
Voltage-dependent_chloride_channel	Ci-CLCN1/2	ci0100142005	11532	see comment	NA	IPI:IPI00020504.1| Splice isoform 1 of P51788 Chloride channelprotein 2	⇔	cleaving embryos +, blood cell +
Voltage-dependent_chloride_channel	Ci-CLCN3/4/5	ci0100140203	35310	see comment	NA	IPI:IPI00298889.1| Chloride channelprotein 3	⇔	blood cell +
Voltage-dependent_chloride_channel	Ci-CLCN6/7	ci0100145284	NA	NA	NA	IPI:IPI00180121.1| Splice isoform A of P51797 Chloride channelprotein 6	→	
Voltage-dependent_chloride_channel	Ci-CLCN6	ci0100139586	30188	see comment	NA	IPI:IPI00180121.1| Splice isoform A of P51797 Chloride channelprotein 6	⇔	cleaving embryos +, tailbud embryos +, young adult +, blood cell +
Voltage-dependent_chloride_channel	Ci-CLCN7	ci0100146907	36107	see comment	NA	IPI:IPI00020524.3| Chloride channelprotein 7	→	gastrulae & neurulae +
Calcium_activated_chloride channel	Ci-CLCA4	ci0100131812	15536	see comment	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	→	young adult +, gonad +, nural complex +++, heart ++++, blood cell +++++
Calcium_activated_chloride channel	Ci-CLCA3	ci0100132657	NA	NA	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	→	
Calcium_activated_chloride channel	Ci-CLCA5	ci0100137033	NA	NA	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	→	

Calcium_activated_chloride channel	Ci-CLCA1	ci0100140780	35665	see comment	NA	IPI:IPI00298082.2| calcium activated chloridechannel 4	⇔	blood cell +
Calcium_activated_chloride channel	Ci-CLCA2	ci0100141485	NA	NA	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	⇔	
Calcium_activated_chloride channel	Ci-CLCA7	ci0100130608	16060	cilv086g18	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	→	larvae++, young adults+
Calcium_activated_chloride channel	Ci-CLCA6	ci0100148238	NA	NA	NA	IPI:IPI00014625.1| Calcium-dependent chloridechannel-1	→	
Intracellular_chloride_channel	Ci-CLIC	ci0100130466	01624(longer transcript;sho	see comment	NA	IPI:IPI00027193.2| Splice isoform 2 of Q9NZA1 Chloride intracellularchannel protein 5	⇔	1624 eggs++, cleaving embryos++, tailbud+++, larva+, young adults+++, gonad++, neura complex+++, heart++++, blood+; tree is not shown
nicotinic_AchR channel	Ci-nAChR-B2/4	grail.914.6.1	15847	ciad56n04	NA	IPI:IPI00016869.1| Neuronal acetylcholine receptor protein,beta-2 chair precursor	→	young adult +, neural complex +
nicotinic_AchR channel	Ci-nAChR-A7/8-2	ci0100154769	32450	cinc032m18	NA	IPI:IPI00003858.1| Neuronal acetylcholine receptor protein,alpha-7 chair precursor	→	neural complex+, heart++
nicotinic_AchR channel	Ci-nAChR-A7/8-1	ci0100150599	NA	NA	NA	IPI:IPI00003858.1| Neuronal acetylcholine receptor protein,alpha-7 chair precursor	⇔	ND
nicotinic_AchR channel	Ci-nAChR-B/G/D/E2	ci0100137699	30286	ciht039e23	NA	IPI:IPI00298986.1| Acetylcholine receptorprotein, beta chain precursor	→	young adults, heart, blood cell +
Ionotropic 5HTR channel	Ci-5HT3R-1	ci0100154179	NA	rcinc012g20	NA	IPI:IPI00004355.1| Splice isoform 1 of P460985-hydroxytryptamine 3 receptor precursor	⇔	?
Ionotropic 5HTR channel	Ci-5HT3R-2	ci0100138956	37030, 04655	cilv053c08	NA	IPI:IPI00004355.1| Splice isoform 1 of P460985-hydroxytryptamine 3 receptor precursor	→	larvae+
nicotinic_AchR channel	Ci-nAChR-A1	ci0100142296	700	citb02f15, cign031n	NA	IPI00218234.1SPLICE ISOFORM 1 OF P02708 ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN	⇔	gastrula&neurula, tailbud ++
Ionotropic 5HTR channel	Ci-5HT3R-3	ci0100144139	NA	NA	NA	IPI00004355.1;SPLICE ISOFORM 1 OF P46098 5-HYDROXYTRYPTAMIN	→	ND
nicotinic_AchR channel	Ci-nAChR-A3	ci0100145172	13669	cilv37m07	NA	IPI:IPI00297165.1| Cholinergic receptor, nicotinic, alphapolypeptide 3	⇔	larvae+
nicotinic_AchR channel	Ci-nAChR-B/G/D/E1	ci0100132435	NA	NA	NA	IPI:IPI00016869.1| Neuronal acetylcholine receptor protein,beta-2 chair precursor	→	ND
nicotinic_AchR channel	Ci-nAChR-B/G/D/E3	ci0100132247	1345, 01345	ciht029g01	NA	IPI:IPI00016869.1| Neuronal acetylcholine receptor protein,beta-2 chain precursor	→	tailbud embryos, heart +; muscle lineage in tailbud (in situ hybri)
rapsyn	Ci-rapsyn	ci0100138880	NA	NA	NA	IPI00152522.1; 43KDA ACETYLCHOLINE RECEPTOR-ASSOCIATED PR	⇔	
glutamate_receptor channel	Ci-GluR1/2/3/4	ci0100143594	NA	cilv050h09	NA	IPI:IPI00298700.1|Splice isoform Flop of P42263Glutamate receptor 3 prec	⇔	
glutamate_receptor channel	Ci-GluR_KaiR-like	ci0100144772	36560	cign079c05	NA	IPI:IPI00022850.3|SWISS-PROT:P39086-1|REFSEQ_NP:NP_000821|TRE	⇔	gastrulae & neurlae+
glutamate_receptor channel	Ci-GluR_Delta1	ci0100154783	598	cibd049g06	NA	IPI:IPI00374337.1| similar to glutamate receptor delta-1subunit	→	Eggs+,cleaving embryos++,tailbud embryos++,larvae+,young adults+,neural complex+,heart++,blood cell++
glutamate_receptor channel	Ci-GluR_Delta2	ci 0100150632	NA	NA	NA	IPI:IPI00374337.1| similar to glutamate receptor delta-1subunit	⇔	
glutamate_receptor channel	Ci-GluR_NR2	ci0100148491	NA	NA	NA	IPI:IPI00029768.1|Glutamate [NMDA] receptor subunit epsilon 1 precursor	⇔	
glutamate_receptor channel	Ci-GluR_NR1	ci0100139668	NA	NA	NA	IPI:IPI00011989.1|Splice isoform 2 of Q05586 Glutamate [NMDA]receptor	⇔	
glutamate_receptor channel	Ci-GluR_Div1	grail.488.7.1+grail.488.8.1(ci0100136424)	NA	NA	NA	IPI:IPI00011397.1| Glutamatereceptor, ionotropic kainate 3 precursor	→	
glutamate_receptor channel	Ci-GluR_Div2	cibd052n06 (ci0100131720)	NA	cibd052n06	NA	human GLUR4 (AMPA-R)	→	
glutamate_receptor	Ci-GluR_Div5	ci0100133156	NA	NA	NA	IPI:IPI00219124.1|Splice isoformFlip of P42261 Glutamate receptor 1 precu	→	
glutamate_receptor	Ci-GluR_Div3	grail.19.29.1(ci0100130143)	32579	ciht009j20	NA	IPI:IPI00219124.1|Splice isoformFlip of P42261 Glutamate receptor 1 precu	→	tailbud+, heart+
glutamate_receptor	Ci-GluR_Div4	ci0100153760	NA	NA	NA	IPI:IPI00011396.1| Glutamatereceptor, ionotropic kainate 2 precursor	→	
GABAAR channel	Ci-GABAAR_beta	ci0100144390	NA	NA	NA	IPI:IPI00217235.1| Splice isoform 2 of P28472Gamma-aminobutyric-acid receptor beta-3 subunitprecursor	⇔	
GABAAR channel	Ci-GABAAR_alpha/gamma/ipsilon	ci0100145637	NA	NA	NA	IPI:IPI00339270.1| Gamma-aminobutyric acid (GABA) Areceptor, alpha 4	⇔	

GABAAR channel	Ci-GABAAR_pi	ci0100137948	NA	cilv04b13	NA	IPI:IPI00012181.1| Gamma-aminobutyric-acid receptor pi subunitprecursor	→	
GABAAR channel	Ci-GABAAR_rho3	ci0100133874	15456	cilv088o11,cilv074	NA	IPI:IPI00293005.1| Gamma-aminobutyric-acid receptor rho-2subuni precursor	→	larvae+
GABAAR channel	Ci-GABAAR_rho4	ci0100148532	4871	cilv008e23_20;cilv	cilv008e23;AK112784	IPI:IPI00027150.1| Gamma-aminobutyric-acidreceptor rho-1 subuni precursor	→	larvae++
glycine receptor channel	Ci-GlyR	ci0100137620	NA	NA	NA	IPI:IPI00220450.1| Splice isoform Alpha-2B of P23416 Glycinereceptor alpl	⇔	
GABAAR channel	Ci-GABAAR_rho1	ci0100131423	34755	cigd026i13	NA	IPI:IPI00027150.1| Gamma-aminobutyric-acidreceptor rho-1 subuni precursor	→	gonad ++
GABAAR channel	Ci-GABAAR_rho2	ci0100131424	34240	citb068g18	NA	IPI:IPI00027150.1| Gamma-aminobutyric-acidreceptor rho-1 subuni precursor	→	tailbud embryos+
Connexin	Ci-connexin-related-3	ci0100145841	10009	cilv13i23,	AK112831	IPI:IPI00007029.2| gap junction protein, alpha 12, 46.6kDa(connexin 46.6)	→	tailbut embryos+/-, larvae+, young adult+/-, Neural Complex +; tree is not shown
Connexin	Ci-connexin-related-5	ci0100141912	NA	NA	NA	IPI:IPI00007029.2| gap junction protein, alpha 12, 46.6kDa(connexin 46.6)	→	cDNA not present; tree not shown
Connexin	Ci-connexin-related-6	ci0100141929	36353	cign034o	NA	IPI:IPI00007029.2| gap junction protein, alpha 12, 46.6kDa(connexin 46.6)	→	gastrulae & neurulae+; tree is not shown
Connexin	Ci-connexin-related-8	ci0100135673	31963	ciht012g0	NA	IPI:IPI00002946.1| Gap junction alpha-7 protein, Connexin45	⇔	heart+ ; tree is not shown
Connexin	Ci-connexin-related-17	ci0100147424	30111	ciad088p	NA	IPI:IPI00329796.1| gap junction protein, alpha 10, 58kDa(connexin 58)	→	young adult+ ; tree is not shown
Connexin	Ci-connexin-related-16	Ci010051940(=genewise.21.185.1)	13266	citb101o0	NA	IPI:IPI00007029.2| gap junction protein, alpha 12, 46.6kDa(connexin 46.6)	→	Tailbud embryos+, Larvae+, adult heart+ ; tree is not shown
Connexin	Ci-connexin-related-11	ci0100132251	NA	NA	NA	IPI:IPI0000219023.3| Connexin37(GJA4)	→	cDNA not present; tree not shown
Connexin	Ci-connexin-related-4	ci0100132269	NA	NA	NA	IPI:IPI00002946.1| Gap junction alpha-7 protein	→	cDNA not present; tree not shown
Connexin	Ci-connexin-related-2	ci0100132172(=genewise.24.246.1)	1325	cilv004i10(AK112	NA	IPI:IPI00002946.1| Gap junction alpha-7 protein	→	Tailbud embryos+, Larvae+, adult heart+++; tree not shown
Connexin	Ci-connexin-related-10	ci0100142776	15493	citb19l20	NA	IPI:IPI00002946.1| Gap junction alpha-7 protein	→	Tailbud embryos+; tree not shown
Connexin	Ci-connexin-related-14	ci0100132051	NA	NA	NA	IPI:IPI00002946.1| Gap junction alpha-7 protein	→	tree not shown
Connexin	Ci-connexin-related-7	grail.250.16.1	4199	cieg068d	NA	IPI:IPI00007618.1| Gap junction alpha-9 protein	→	Egg+,cleaving embryos+,young adult+ heart+, blood cell+; tree not shown
Connexin	Ci-connexin-related-9	grail.678.4.1	6250	cieg14g0	NA	IPI:IPI00220287.1| Gap junction alpha-8 protein	→	Egg+; tree not shown
Connexin	Ci-connexin-related-15	ci0100142372	10266	ciad18f07	NA	IPI:IPI00221385.1| gap junction protein, alpha 3, 46kDa(connexin 46)	→	Tailbud embryos+, young adult+; tree not shown
Connexin	Ci-connexin-related-12	Ci0100136068(=grail.155.13.1)	12317	cieg039k	NA	IPI:IPI00019868.1| gap junction beta-2 protein	→	Eggs+, young adult+,Blood Cell ++; tree not shown
Connexin	Ci-Connexin-related-13	ci0100142421(=genewise19.178.1)	NA	NA	NA	IPI:IPI00155428.1| Truncated connexin 37polymorph, gap junction alpha-4 protein	→	tree not shown
Connexin	Ci-Connexin-related-1	ci0100135879(=grail/19/33/1)	00000r1	cicl006e12(AK112	cicl006e12.20;AK112235	IPI:IPI00027190.1| Gap junction beta-1 protein, Connexin 32	→	Egg++,cleaving embryos+++, gastrula & neurula ++++, tailbud embryos+++ larvae++,young adult+/- ; tree not shown
Innexin	Ci-pannexin1	ci0100132898	03511r1	cieg014e1	cieg014e19, AK1147(	IPI:IPI00218331.1| pannexin 1	→	eggs +++, gastrulae & neurulae +, young adults ++; tree not shown
Innexin	Ci-pannexin2	ci0100152242	NA	NA	NA	IPI:IPI00045156.1 Pannexin 3	→	tree not shown
aquqporin	Ci-AQP3	grail.21.46.1(ci0100154244)	02370r1	e19(AK11	b12e19(AK11615	IPI:IPI00021558.1| Splice isoform 1 of Q92482 Aquaporin 3	⇔	GasNeu+,TailBud+,Endostyle+4
major intrinsic protein	Ci-MIP	genewise.58.347.1(ci0100146100)	691	cign017d11(5'EST	NA	IPI:IPI00026069.1| Lens fiber major intrinsic protein	⇔	Eggs++,CleavingEmb++,GasNeu+,Tailbud+4,Larvae+,Gonad+
aquaporin	Ci-AQP8-1	grail.37.76.1(ci0100136190)	01096r1	cicl27n09(AK1140	cicl27n09(AK114085)	IPI:IPI00304357.2| Aquaporin 8	⇔	Cleaving_Embryo++, GasNeu+,TailBud+,Larvae+,Young_Adults+,Heart++,Blood_Cells+
aquaporin	Ci-AQP8-3	ci0100138199	NA	NA	NA	sp|O94778|AQP8_HUMAN Aquaporin 8	→	-
aquaporin	Ci-AQP8-2	ci0100142343	01883r1	citb014o16(5'EST)	NA	sp|O94778|AQP8_HUMAN Aquaporin 8	→	TailBud+
aquaporin	Ci-Drip	ci0100147471	NA	NA	NA	sp|O94778|AQP8_HUMAN Aquaporin 8	→	-
IP3R	Ci-IP3R	ci0100150586	31,445	cieg072n02	AK116336	IPI:IPI00218659.1| Splice isoform 3 ofQ14643 Inositol 1,4,5-trisphosphate receptor type 1	⇔	egg+
RyR	Ci-RYR	ci0100150467	00576/04951	cign034c19	NA	IPI:IPI00023217.1| Splice isoform 1 of Q92736 Ryanodine receptor 2	⇔	gastrulae & neurulae + tailbud embryos +
TRPV	Ci-osm9-related1	ci0100148845	15684	cinc015c01	NA	IPI:IPI00302133.1| Transient receptorpotential cation channel subfamily V member 5	⇔	gastrulae & neurulae+, young adults+ , neural complex+, blood cell +
TRPV	Ci-osm9-related2	ci0100131491(grail.150.10.1)	NA	cign048p12	NA	IPI:IPI00302133.1| Transient receptorpotential cation channel subfamily V member 5	→	cleaving embryos+, gastrulae & neurulae+, tailbud embryos+, blood cell +

TRPA	**Ci-TRPA1**	**ci0100144239**	5329	cicl25j18	**NA**	IPI:IPI00015963.1| ankyrin-like protein 1	⇔	egg+, cleaving embryo+
TRPC	**Ci-TRPC4/5**	**ci0100145795**	NA	NA	**NA**	IPI:IPI00030930.1| Short transient receptorpotential channel 7	⇔	
TRPC	**Ci-TRPC-related4**	**ci0100153195**	424	cign055k16	**NA**	IPI:IPI00007836.1| Short transient receptor potential channel 5	⇔	gastrulae & neurulae +
TRPC	**Ci-TRPC-related1**	**ci0100139767**	NA	NA	**NA**	IPI:IPI00007836.1| Short transient receptor potential channel 5	→	
TRPC	**Ci-TRPC-related2**	**ci0100137886(cieg003f21)**	3168	cibd011l15,cieg003	AK114470;cieg003f21	IPI:IPI00007836.1| Short transient receptor potential channel 5	→	eggs+,tailbud embryos+,heart+,blood cell+
TRPC	**Ci-TRPC-related5**	**ci0100151509+ci0100151486**	35698	cibd053m07	**NA**	IPI:IPI00219495.1| Splice isoformGamma of Q9UBN4 Short transien receptor potentialchannel 4	→	blood cell+
TRPC	**Ci-TRPC-related3**	**ci0100139001+cigd030c19+cieg091b13+ci0100139049+ci0100139074**	34781	cigd030c19	**NA**	IPI:IPI00219494.1| Splice isoformDelta of Q9UBN4 Short transient receptor potentialchannel 4	→	gonad+
TRPC	**Ci-TRPC-related6**	**ci0100130006**	32426	ciht022h05	**NA**	IPI:IPI00219494.1| Splice isoformDelta of Q9UBN4 Short transient receptor potentialchannel 4	→	heart+
TRPC	**Ci-TRPC-related7**	**ci0100140826**	NA	NA	**NA**	IPI:IPI00219494.1| Splice isoformDelta of Q9UBN4 Short transient receptor potentialchannel 4	→	
TRPA	**Ci-TRPA-like**	**ci0100149926**	NA	NA	**NA**	IPI:IPI00015963.1| ankyrin-like protein 1	→	
TRPA	**Ci-TRPA2**	**ci0100141212**	36135	cign023o01	**NA**	IPI:IPI00015963.1| ankyrin-like protein 1	→	gastrulae & neurulae+
TRPA	**Ci-TRPA3**	**ci0100139004**	NA	NA	**NA**	IPI:IPI00015963.1| ankyrin-like protein 1	→	
TRPN	**Ci-TRPN**	**ci0100144348**	NA	NA	**NA**	IPI:IPI00375757.2| Ankyrin 3	→	
TRPA	**Ci-TRPA4**	**ci0100138442**	NA	NA	**NA**	IPI:IPI00015963.1| ankyrin-like protein 1	→	
TRPM	**Ci-TRPM1/6/7**	**ci0100139976**	NA	NA	**NA**	IPI:IPI00290032.1| LTRPC7	⇔	
TRPM	**Ci-TRPM2/4/8**	**ci0100138593/ci0100148821**	NA	cign069h03	**NA**	IPI:IPI00014911.1| Splice isoform 1 of O94759 Long transien receptorpotential channel 2	→	gastrulae & neurulae++
PKD	**Ci-TRPP-related1**	**ci0100130673**	NA	cigd042o12	**NA**	IPI:IPI00299040.1| Polycystin 2	→	gonad+,blood cell+
PKD	**Ci-TRPP-related2**	**ci0100154030**	NA	cieg067b08	**NA**	IPI:IPI00373872.2| Polycystic kidney disease 1-like 2	→	eggs+
PKD	**Ci-mucolipin**	**ci0100147055**	15765	ciad40n19	**NA**	IPI:IPI00152513.1| Mucolipin-3	⇔	young adults+,blood cell+
PKD	**Ci-PKD2**	**ci0100145568**	12477	cinc018d24	**NA**	IPI:IPI00299040.1| Polycystin 2	⇔	egg++, cleaving embryos++, gastrula&neurulae+++, tailbud+, youngtadpole++, neura complex+++, heart+
PKD	**Ci-TRPP-related6**	**ci0100135716**	15895	ciad46i08,ciad050	**NA**	IPI:IPI00299040.1| Polycystin 2	→	young adults+
PKD	**Ci-TRPP-related5**	**ci0100153787**	NA	NA	**NA**	IPI:IPI00299040.1| Polycystin 2	→	
PKD	**Ci-TRPP-related4**	**ci0100153003**	16207	f16, cign0	**NA**	IPI:IPI00383867.1| Polycystic kidneydisease 2 related protein	→	neurula&gastrula+, testis+++
PKD	**Ci-TRPP-related3**	**ci0100147448+ciht018d17**	32008	ciht018d17	**NA**	IPI:IPI00044611.1| Hypothetical proteinKIAA1879	→	heart+++
PKD	**Ci-PKD1**	**ci0100150603 648 669**	12382	ciad73j14	**NA**	IPI:IPI00385514.1| Polycystic kidney disease 1 protein	⇔	eggs+, young adults+, testis+++