

Table 1. Functional classification of the 11,769 full-length cDNAs based on the molecular function hierarchy of GO

Fuctional categorization (GO : Molecular function)		Number of matched cDNAs
Binding	Nucleotide binding	681
	Nucleic acid binding	341
	Protein binding	202
	Ion binding	149
	Lipid binding	28
	Tetrapyrrole binding	27
	Neurotransmitter binding	24
	Carbohydrate binding	22
	Other bindings	57
Catalytic activity	Hydrolase activity	506
	Transferase activity	479
	Oxidoreductase activity	207
	Ligase activity	85
	Lyase activity	47
	Helicase activity	38
	Isomerase activity	26
	Other catalytic activities	106
Enzyme regulator activity	GTPase regulator activity	45
	Enzyme inhibitor activity	44
	Other enzyme regulator activities	21
Motor activity	Microtubule motor activity	24
	Other motor activities	20
Signal transducer activity	Receptor activity	124
	Receptor binding	25
	Other signal transducer activities	40
Structural molecule activity	Structural constituent of ribosome	25
	Other structural molecule activities	56
Transcription regulator activity	Transcription factor activity	138
	Other transcription regulator activities	39
Translation regulator activity	Translation factor activity, nucleic acid binding	25
Transporter activity	Ion transporter activity	169
	Carrier activity	90
	Channel or pore class transporter activity	79
	ATPase activity, coupled to movement of substances	39
	Other transporter activities	131
Others		2
Molecular function unknown		45

If a protein was predicted to belong to two or more categories, all categories were included for counting.

Table 2. Functional classification of two types of splicing patterns of 11,769 full-length cDNAs based on GO category analysis

Fuctional categorization (GO : Molecular function)		Number of matched cDNAs				
		Type A	%	Type B	%	Type A+B
Binding	Lipid binding	4	(14.3)	24	(85.7)	28
	Tetrapyrrole binding	5	(18.5)	22	(81.5)	27
	Neurotransmitter binding	12	(50.0)*	12	(50.0)	24
	Carbohydrate binding	4	(18.2)	18	(81.8)	22
	Cofactor binding	3	(16.7)	15	(83.3)	18
	Steroid binding	1	(10.0)	9	(90.0)	10
Catalytic activity	Helicase activity	4	(10.5)	34	(89.5)	38
	Small protein activating enzyme activity	2	(18.2)	9	(81.8)	11
	Cyclase activity	6	(54.5)*	5	(45.5)	11
Enzyme regulator activity	GTPase regulator activity	31	(68.9)*	14	(31.1)	45
	Enzyme activator activity	6	(50.0)*	6	(50.0)	12
Structural molecule activity	Structural constituent of ribosome	1	(4.0)	24	(96.0)	25
Transporter activity	ATPase activity, coupled to movement of substances	23	(59.0)*	16	(41.0)	39
	Electron transporter activity	2	(13.3)	13	(86.7)	15
Total		1,344	(32.0)	2,862	(68.0)	4,206

The ratio of Type A and Type B is 3: 7 as shown by total.

Total is all the results of classification in the category of molecular function.

Fuctional categories labeled "*" has been biased to Type A.

If a protein was predicted to belong to two or more categories, all categories were included for counting.

Table 3. Expressions of a selected list of 261 FEV-containing cDNAs (155 genes).

FLJ ID	Specific expression	Gene symbol	FLJ ID	Specific expression	Gene symbol	FLJ ID	Specific expression	Gene symbol	FLJ ID	Specific expression	Gene symbol
FLJ50079	Brain	NRK	FLJ52319	Trachea	ONE	FLJ55043	FB, NT	PDZRN3	FLJ57051	Brain	Pld5
FLJ50162	Brain	LARGE1	FLJ52354	Brain, NT	CHRNB1_pre	FLJ55050	Brain	EPS15	FLJ57068	FB	FGF13
FLJ50199	Brain	ARHGGEF6	FLJ52356	Testis	ARMC4	FLJ55194	Brain	Unknown	FLJ57107	Brain, NT	CHRNB1_pre
FLJ50365	Trachea	CRISPLD1	FLJ52358	Testis	TP73	FLJ55226	FB	CHST10	FLJ57108	Brain	SNAP91
FLJ50390	Brain	GRIA1_pre	FLJ52367	Testis	IQGAP2	FLJ55256	Synovial	TFEC	FLJ57207	Im	Unknown
FLJ50398	Testis	IQGAP2	FLJ52368	Testis, Trachea	ARMC4	FLJ55265	Im	Unknown	FLJ57232	Testis	PRCP_pre
FLJ50459	Brain	ETV1	FLJ52384	Im	PTPN3	FLJ55281	Heart, Fetal heart	SLCSA1	FLJ57269	Brain	BTBD10
FLJ50460	Brain	DLG4	FLJ52407	Testis	CRB1_pre	FLJ55284	FB, NT	MAGI2	FLJ57290	Trachea	CRISPLD1
FLJ50484	Brain	SLC26A4	FLJ52427	Brain	AMPD3	FLJ55338	FB	CLASP1	FLJ57298	Brain	RAPGEF4
FLJ50494	Brain	ETV1	FLJ52435	Testis	MARCH7	FLJ55344	Brain	DYSF	FLJ57302	Brain	RAPGEF4
FLJ50523	Brain	PEX5L	FLJ52438	Brain	RIMS1	FLJ55381	FB	SLC44A5	FLJ57330	Brain	APBB1
FLJ50526	Brain	PEX5L	FLJ52453	Testis	AMPD3	FLJ55423	Placenta	NRK	FLJ57521	Tu	PPFBP2
FLJ50533	Brain	SLC6A9	FLJ52496	Brain	TSPAN5	FLJ55434	Testis	POMGNT1	FLJ57884	FB	FGF13
FLJ50539	Brain, NT	DCAMKL1	FLJ52520	FB	EOMES	FLJ55460	Brain	SEMA5B_pre	FLJ57888	Brain	SCGB
FLJ50557	Brain	MAP7	FLJ52731	Brain	SPRED2	FLJ55461	NT	KLHL13	FLJ57953	Brain	STAU
FLJ50577	FB	DLG4	FLJ52750	Brain	ARHGGEF7	FLJ55481	NT	RGMA_pre	FLJ58008	Brain	PPP2R2B
FLJ50619	NT	ELAVL4	FLJ52810	Testis	GABRB3_pre	FLJ55495	Testis	PCYT2	FLJ58099	Brain	CLTCL1
FLJ50623	Brain, NT	DCAMKL1	FLJ53109	Testis	PPP2R5E	FLJ55504	Testis	KLHL13	FLJ58366	Brain	RIMS1
FLJ50641	Brain	ETV1	FLJ53114	Testis	NCAM2_pre	FLJ55514	Brain, Tu	EGFR_pre	FLJ58368	Brain	RAPGEF4
FLJ50646	FB	DLG4	FLJ53167	NT	CUL4B	FLJ55516	Tu	LIMS1	FLJ58494	Brain	Unknown
FLJ50725	Testis	ATPAF1	FLJ53184	Brain	PPFIA2	FLJ55607	Brain, Trachea	HDAC9	FLJ58753	Brain	ARHGFE3
FLJ50745	Testis	CCNA1	FLJ53222	FB	MLLT3	FLJ55622	Testis	MMRN1_pre	FLJ58755	Brain	CHN2
FLJ50761	Brain	LRI1G1_pre	FLJ53242	Testis	CLASP1	FLJ55627	Testis	MOV10L1	FLJ58966	Im	RAB37
FLJ50773	Brain	CALB1	FLJ53247	Testis	IDE	FLJ55628	Testis	LOXHD1	FLJ59303	Brain	DOCK4
FLJ50776	Brain	ARHGGEF6	FLJ53252	Testis	CDH2_pre	FLJ55641	Brain, NT	JARID2	FLJ59333	Tu	RARG
FLJ50810	FB, NT	MAGI2	FLJ53320	Brain	DLGAP1	FLJ55662	Im	FGR	FLJ59338	Tu	RARG
FLJ50844	Brain	WARS2_pre	FLJ53324	Brain	TJP2	FLJ55664	Testis	NTRK3_pre	FLJ59345	Brain	PPFIA2
FLJ50917	Testis	PCCB_pre	FLJ53330	Brain, NT	EXOC4	FLJ55778	Brain	CLASP1	FLJ59425	Placenta	SH3KBP1
FLJ50956	Brain	RAPGEF4	FLJ53518	Testis	POMGNT1	FLJ55834	Brain, NT	FGF11	FLJ59496	Brain	CHN2
FLJ50959	Brain	RAPGEF4	FLJ53578	Brain	Rims1	FLJ55856	Testis	ARHGFE3	FLJ59502	Brain	PPFIA2
FLJ50961	Brain	TMEM16C	FLJ53606	NT	AKT1	FLJ55859	Testis	ST7L	FLJ59511	Brain	GRIA1_pre
FLJ50989	FB	EOMES	FLJ53680	Testis	KIF2C	FLJ55865	Im	SLC43A2	FLJ59545	Brain	EML2
FLJ51025	Kidney	NOX4	FLJ53829	Brain	APBB1	FLJ55903	FB	GPR161	FLJ59625	Brain	ARHGFE7
FLJ51027	Kidney	NOX4	FLJ53875	Brain	APBB1	FLJ55905	Im	FGD4	FLJ59641	Testis	PPFIA2
FLJ51073	FB	EOMES	FLJ53929	Im	PTPN4	FLJ55906	Testis	KIFC3	FLJ59648	Im	DYSF
FLJ51155	Testis	Unknown	FLJ53980	Brain	PPM1F	FLJ55918	Brain	EML2	FLJ59678	Brain	PEX5L
FLJ51157	Testis	HDAC4	FLJ53990	Brain	GABRB3_pre	FLJ55961	Brain	GRM4_pre	FLJ59684	Brain	PLEKHG5
FLJ51174	Im	HDAC4	FLJ53997	Brain	CTNNA2	FLJ55997	Brain	CPNE6	FLJ59710	Brain	MCF2
FLJ51177	Im	HDAC4	FLJ53999	Brain	GAB1	FLJ56033	Testis	Unknown	FLJ59717	FB	TBR1
FLJ51210	Brain	KIFC3	FLJ54008	Brain	TPCN1	FLJ56036	Tu	KIFC3	FLJ59769	Im	PLEKHG5
FLJ51383	Testis	PPP2R5A	FLJ54011	Brain	PPFIA2	FLJ56037	Testis, Prostate	CUL2	FLJ59799	Testis	CTNNA2
FLJ51528	Im	BTNL8_pre	FLJ54016	Testis	DIP13B	FLJ56038	Small intestine	Unknown	FLJ59802	Testis	ADCY5
FLJ51566	Brain	PDK1	FLJ54093	Brain	GPHN	FLJ56044	Brain	OXR1	FLJ59806	Im	HDAC4
FLJ51606	Trachea	HABP2_pre	FLJ54100	Brain	CHN2	FLJ56093	Brain	PTPRR_pre	FLJ60503	Brain	LARGE1
FLJ51663	Testis	CPS1_pre	FLJ54331	Brain, Osteoclast	Unknown	FLJ56095	Brain	KLHL13	FLJ60665	Tu	SLC44A5
FLJ51675	Brain	ETV1	FLJ54394	Testis	CRB1_pre	FLJ56110	FB	GOLSYN	FLJ60667	Tu	SLC44A5
FLJ51685	Testis	MCF2	FLJ54513	Testis	WDR59	FLJ56116	FB	APLP1	FLJ60693	FB	PHF21B
FLJ51695	Im	TP74	FLJ54541	FB	EXOC4	FLJ56136	NT	SLC2A14	FLJ60998	Testis	INPP4B
FLJ51706	Testis	RAPGEF4	FLJ54577	NT	HDAC9	FLJ56137	Im	Unknown	FLJ61124	Brain	RAB37
FLJ51734	Uterus	TMEM16C	FLJ54580	NT	HDAC9	FLJ56142	NT	AMOTL2	FLJ61133	FB	EXOC4
FLJ51737	Brain	ARHGGEF6	FLJ54612	Brain	SH3KBP1	FLJ56148	Brain	PLEKHG5	FLJ61370	FB	SNCAIP
FLJ51769	Testis	IQGAP2	FLJ54642	Brain	APBB1	FLJ56167	Testis	KLHL12	FLJ61443	Testis	LARGE1
FLJ51805	Brain	RIMS2	FLJ54658	Brain	LSAMP_pre	FLJ56226	NT	SNCAIP	FLJ61560	Trachea	TPP2
FLJ51859	Brain	APBB1	FLJ54672	Brain	DOCK4	FLJ56370	Testis, Prostate	FKBP8	FLJ61674	Brain	PEX5L
FLJ51873	Brain, NT	AGPS_pre	FLJ54673	Brain	Unknown	FLJ56376	Brain	MTMR1	FLJ61679	Brain	APBB1
FLJ51910	FB	GTPBP3	FLJ54674	Brain	TPCN1	FLJ56411	Brain	GRIA2_pre	FLJ53199	Brain ↓	NEDD4L
FLJ51934	Im	AOAH_pre	FLJ54690	Brain	BACE1_pre	FLJ56420	Testis	DNPEP	FLJ59993	Brain ↓	RIMS1
FLJ51957	NT	ELAVL4	FLJ54693	Brain	BACE1_pre	FLJ56452	Brain	EML2	FLJ55591	Brain ↓	ARHGFE3
FLJ51977	Brain	Unknown	FLJ54702	Brain	DLGAP1	FLJ56634	Brain	GRM4_pre	FLJ56152	Brain ↓	ARHGFE7
FLJ52027	Testis	ATPAF1	FLJ54724	FB	DLG2	FLJ56895	Testis	EML2	FLJ58411	FB ↓	CACNB3
FLJ52034	Im	Unknown	FLJ54738	Brain	PDZRN3	FLJ56912	Uterus	FBLN2_pre	FLJ58949	FB ↓	CACNB3
FLJ52037	Im	GRAP2	FLJ54742	Testis	Slmap	FLJ56913	Placenta, Uterus	FBLN2	FLJ57810	Tu ↓	AZML1
FLJ52039	Im	GRAP2	FLJ54746	NT	PDZRN3	FLJ56957	Brain	TMEM16C	FLJ53545	Tu ↓	RARG
FLJ52041	Im	Unknown	FLJ54751	NT	SUV420H1	FLJ56961	Brain	CLTCL1			
FLJ52042	Im	GRAP2	FLJ54906	Trachea	TMC5	FLJ56973	Brain	TMEM16C			
FLJ52288	Testis	ARMC4	FLJ54987	FB	PHF21B	FLJ56979	Brain	MYRIP			

We analyzed expression profiles of the first exons of about 1.5 million 5'-ESTs constructed by the oligo-capping method. From this analysis, we selected 261 full-length cDNAs based on the expression levels of their FEVs in specific tissues. Expression levels of cDNAs indicated without any label and with a "↓" label were high and low, respectively, in the respective tissues.

* NT: NT2 cell induced by retinoic acid; FB: fetal brain; Im: immune tissues; Tu: tumor tissues; pre: precursor ; Unknown: function unknown