

**Table 2. Discrete expression regions for genes examined in this study.**

ID	Region name	System or tissue	Chi-square test*	Loss/gain ratio <sup>†</sup>
1	Central nervous system	Nervous system	0.5013	1.511775
2	Brain	Nervous system	1.77532	3.324505
3	Central brain	Nervous system	<b>2.98697</b>	9.340479
4	Central brain neuron	Nervous system	0.014	1.104827
5	Central brain glia	Nervous system	0.7241	1.926697
6	Central brain surface glia	Nervous system	0.26666	3.547929
7	Central brain mushroom body	Nervous system		
8	Central brain pars intercerebralis	Nervous system		
9	Embryonic optic lobe	Nervous system		
10	Inner optic lobe	Nervous system		
11	Outer optic lobe	Nervous system		
12	Head epidermis	Nervous system	0.6987	1.599832
13	Sensory system head	Nervous system	1.69715	2.266526
14	Bolwig's organ	Nervous system		
15	Adult eye primordium	Nervous system		
16	Antennal sense organ	Nervous system	0.33829	8.024047
17	Dorsal pouch	Nervous system	0.526	2.122427
18	Stomatogastric nervous system	Nervous system	<b>1.98122</b>	5.999993
19	Frontal ganglion	Nervous system	<b>1.98122</b>	5.999993
20	Hypocerebral ganglion	Nervous system		
21	Esophageal ganglion	Nervous system		
22	Proventricular ganglion	Nervous system		
23	Foregut	Digestive system	1.0219	3.066064
24	Epipharynx	Digestive system	0.66414	2.500005
25	Adult clypeo-labral primordium	Digestive system		
26	Labral sensory complex primordium	Digestive system	0.17654	2.265953
27	Hypopharynx	Digestive system	1.37099	3.075508
28	Esophogus	Digestive system	0.3349	1.4
29	Proventriculus	Digestive system	<b>2.53711</b>	3.438024
30	Proventriculus inner layer	Digestive system	0.91205	1.788321
31	Proventriculus intermediate layer	Digestive system		
32	Proventriculus outer layer	Digestive system	1.38041	2.093052
33	Adult foregut precursor	Digestive system		
34	Atrium	Digestive system		
35	Foregut sensory structure	Digestive system	0.33939	7.388359
36	Maxillary sensory complex	Other	0.33939	7.388359
37	Labial sensory complex	Other	0.33939	7.388359
38	Salivary gland	Digestive system	<b>2.18451</b>	3.117826
39	Salivary gland body	Digestive system	0.25771	3.350346
40	Salivary gland duct	Digestive system	1.38763	3.37883
41	Salivary gland common duct	Digestive system	1.38763	3.37883
42	Adult salivary primordium	Digestive system		
43	Ventral epidermis	Other	0.8964	1.571426
44	Anal pad	Digestive system	0.33979	2
45	Ventral apodeme	Muscle system		
46	Ventral imaginal precursor	Discs		

47	Labial disc	Discs	0.35963	5.000009
48	Dorsal mesothoracic disc	Discs		
49	Ventral thoracic disc	Discs		
50	Genital disc	Discs		
51	Ventral sensory complex primordium	Other	<b>2.35847</b>	6.832611
52	Ventral nerve cord	Nervous system	0.947	1.63635
53	Lateral cord	Nervous system	1.4326	2.146849
54	Lateral cord neuron	Nervous system	0.4655	1.574421
55	Lateral cord glia	Nervous system	1.7936	2.459465
56	Lateral cord surface glia	Nervous system	1.79901	4.929445
57	Ventral midline	Nervous system	1.6358	2.088228
58	Ventral midline glia	Nervous system	<b>2.09304</b>	2.999993
59	Ventral midline neuron	Nervous system	0.74368	6.995266
60	Dorsal epidermis	Other	1.5775	1.694738
61	Oenocyte	Other	0.1812	0.455918
62	Dorsal imaginal precursor	Discs		
63	Dorsal histoblast nest abdominal	Other		
64	Sensory nervous system primordium	Nervous system	<b>2.1671</b>	3
65	Leading edge cell	Other		
66	Tracheal system	Tracheal system	0.9773	1.641112
67	Anterior spiracle	Tracheal system		
68	Posterior spiracle	Tracheal system	<b>2.2556</b>	2.861584
69	Dorsal trunk	Tracheal system	1.69807	2.749999
70	Dorsal branch	Tracheal system	0.33977	2
71	Visceral branch	Tracheal system	0.33977	2
72	Tracheole	Tracheal system	0.52325	2.999993
73	Imaginal tracheal precursor	Tracheal system		
74	Amnioserosa	Other	0.75252	4.032823
75	Midgut	Digestive system	0.0116	1.047618
76	Gastric caecum	Digestive system	0.82281	2.32451
77	Midgut chamber	Digestive system	1.1001	1.751238
78	Cuprophilic cell	Digestive system	1.47234	3.534418
79	Midgut interstitial cell	Digestive system	0.52325	3
80	Adult midgut precursor	Digestive system		
81	Hind gut	Digestive system	<b>4.9419</b>	3.004618
82	Malphigian tubule primordium	Digestive system		
83	Main segment of Malphigian tubule	Digestive system	0.17557	2.304294
84	Malphigian tubule tip cell	Digestive system	0.56503	5.815178
85	Small intestine	Digestive system	0.73342	3.041132
86	Large intestine	Digestive system	<b>1.9302</b>	2.609647
87	Rectum	Digestive system	0.34053	2.010203
88	Adult hindgut precursor	Digestive system	1.75356	4.247417
89	Hemocyte	Circulatory system	1.09739	5.706177
90	Macrophage	Circulatory system		
91	Crystal cell	Circulatory system	0.5303	1.65012
92	Garland cell	Circulatory system	0.96685	2.25
93	Garland cell primordium	Circulatory system		
94	Paracardial cell SA	Circulatory system		
95	Circulatory system	Circulatory system		
96	Dorsal vessel	Circulatory system	0.66414	2.5

97	Lymph gland	Circulatory system	1.13233	4.908473
98	Muscle system	Muscle system	0.4366	1.977611
99	Dorsal prothoracic pharyngeal muscle	Muscle system	0.04552	1.200002
100	Somatic muscle	Muscle system	0.04552	1.200002
101	Adult muscle precursor primordium	Muscle system		
102	Visceral muscle	Muscle system	0.00243	1.052779
103	Longitudinal visceral muscle fibers	Muscle system		
104	Circular visceral muscle fibers	Muscle system		
105	Fat body	Fat body	<b>2.2986</b>	2.947986
106	Gonad	Reproductive system	0.82283	2.33333
107	Gonadal sheath	Reproductive system		
108	Germ cell	Reproductive system	1.4849	2.399995
109	Endocrine system	Endocrine system	<b>2.29627</b>	4.614959
110	Ring gland	Endocrine system	0.12782	2.224144
111	Embryonic corpus allatum	Endocrine system		
112	Corpus cardiacum	Endocrine system		
113	Prothoracic gland	Endocrine system		
114	Dorsomedial neurosecretory cell			
115	Embryonic Malpighian tubule	Digestive system	<b>3.5783</b>	2.416673

\*Chi test is log likelihood of two-rate model minus log-likelihood of one-rate model.  
 Bold denotes significant support for two-rate model. Some likelihood values could not be calculated because of insufficient data from single expression domains.

†Loss/gain ratio is from parameter estimates of two-rate model.