$G\beta_1$		Fold Difference Numerator (Fold Difference Numerator Raw Value)							
		CTX pre (1.02E-4)	**CRB Pre** (8.03E-05)	**Hippo pre** (5.50E-05)	**Str pre** (4.48E-05)	**CTX post** (9.58E-05)	**CRB post** (6.86E-05)	**Hippo post** (7.74E-05)	**Str post** (1.18E-4)
Fold Difference Denominator (Fold Difference Denominator Raw Value)	**CTX pre** (1.02E-4)	--	0.79	0.54	0.44	0.94			
	CRB pre (8.03E-05)	1.26	--	0.68	0.56		0.85		
	Hippo pre (5.50E-05)	1.85	1.46	--	0.81			1.41	
	Str pre (4.48E-05)	2.27	1.79	1.23	--				**2.63**
	CTX post (9.58E-05)	1.06				--	0.72	0.81	1.23
	CRB post (6.86E-05)		1.17			1.40	--	1.13	1.72
	Hippo post (7.74E-05)			0.71		1.24	0.89	--	1.52
	Str post (1.18E-4)				0.38	0.81	0.58	0.66	--

Supplementary Table 1. Fold differences comparing expression of G protein β_1 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\beta_1$ in postsynaptic fractions to $G\beta_1$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\beta_1$ peptides within the postsynaptic fraction by the total normalized area for $G\beta_1$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\beta_1$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\beta_1$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\beta_1$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\beta_2$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
Fold Difference Denominator (Fold Difference Denominator Raw Value)		**CTX pre** (6.67E-5)	**CRB Pre** (4.81E-5)	**Hippo pre** (3.73E-5)	**Str pre** (3.65E-5)	**CTX post** (6.03E-5)	**CRB post** (4.93E-5)	**Hippo post** (6.46E-5)	**Str post** (1.38E-4)
	CTX pre (6.67E-5)	--	0.72	0.56	0.55	0.90			
	CRB pre (4.81E-5)	1.39	--	0.78	0.76		1.03		
	Hippo pre (3.73E-5)	1.79	1.29	--	0.98			1.73	
	Str pre (3.65E-5)	1.83	1.32	1.02	--				**3.78**
	CTX post (6.03E-5)	1.11				--	0.82	1.07	**2.28**
	CRB post (4.93E-5)		0.98			1.22	--	1.31	**2.80**
	Hippo post (6.46E-5)			0.58		0.93	0.76	--	**2.13**
	Str post (1.38E-4)				0.26	0.44	0.36	0.47	--

Supplementary Table 2. Fold differences comparing expression of G protein β_2 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\beta_2$ in postsynaptic fractions to $G\beta_2$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\beta_2$ peptides within the postsynaptic fraction by the total normalized area for $G\beta_2$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\beta_2$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\beta_2$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\beta_2$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\beta_4$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
Fold Difference Denominator (Fold Difference Denominator Raw Value)		**CTX pre** (3.12E-6)	**CRB pre** (3.61E-6)	**Hippo pre** (1.13E-6)	**Str pre** (1.29E-6)	**CTX post** (3.35E-6)	**CRB post** (4.84E-6)	**Hippo post** (2.51E-6)	**Str post** (5.23E-6)
	CTX pre (3.12E-6)	--	1.16	0.36	0.41	1.08			
	CRB pre (3.61E-6)	0.86	--	0.31	0.36		1.34		
	Hippo pre (1.13E-6)	2.75	3.19	--	1.14			2.22	
	Str pre (1.29E-6)	2.42	2.80	0.88	--				**4.06**
	CTX post (3.35E-6)	0.93				--	1.44	0.75	1.56
	CRB post (4.84E-6)		0.75			0.69	--	0.52	1.08
	Hippo post (2.51E-6)			0.45		1.34	1.93	--	2.08
	Str post (5.23E-6)				0.25	0.64	0.92	0.48	--

Supplementary Table 3. Fold differences comparing expression of G protein β_4 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\beta_4$ in postsynaptic fractions to $G\beta_4$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\beta_4$ peptides within the postsynaptic fraction by the total normalized area for $G\beta_5$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\beta_4$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\beta_4$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\beta_4$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\beta_5$	**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
Fold Difference Denominator (Fold Difference Denominator Raw Value)		**CTX pre** (N.D.)	**CRB pre** (N.D.)	**Hippo pre** (N.D.)	**Str pre** (2.48E-6)	**CTX post** (N.D.)	**CRB post** (N.D.)	**Hippo post** (N.D.)	**Str post** (1.01E-5)
	CTX pre (N.D.)								
	CRB pre (N.D.)								
	Hippo pre (N.D.)								
	Str pre (2.48E-6)				--				**4.07**
	CTX post (N.D.)								
	CRB post (N.D.)								
	Hippo post (N.D.)								
	Str post (1.01E-5)				0.25				--

Supplementary Table 4. Fold differences comparing expression of G protein β_5 in pre *and* postsynaptic fractions within the striatum. Fold differences comparing expression of $G\beta_5$ in the striatum within postsynaptic fractions to $G\beta_5$ expression within presynaptic fractions were calculated by dividing the total normalized area for $G\beta_5$ peptides within the postsynaptic fraction by the total normalized area for $G\beta_5$ peptides within the presynaptic fraction. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction; N.D.: not detected.

$G\gamma_2$		Fold Difference Numerator (Fold Difference Numerator Raw Value)							
		CTX pre (1.66E-6)	**CRB pre** (5.74E-7)	**Hippo pre** (1.74E-6)	**Str pre** (5.25E-7)	**CTX post** (1.74E-6)	**CRB post** (9.03E-7)	**Hippo post** (3.26E-6)	**Str post** (2.10E-6)
Fold Difference Denominator (Fold Difference Denominator Raw Value)	**CTX pre** (1.66E-6)	--	0.34	1.05	0.32	1.05			
	CRB pre (5.74E-7)	2.90	--	3.04	0.92		1.57		
	Hippo pre (1.74E-6)	0.96	0.33	--	0.30			1.87	
	Str pre (5.25E-7)	3.17	1.09	3.32	--				3.99
	CTX post (1.74E-6)	0.96				--	0.52	1.87	1.20
	CRB post (9.03E-7)		0.64			1.93	--	**3.61**	2.32
	Hippo post (3.26E-6)			0.53		0.53	0.28	--	0.64
	Str post (2.10E-6)				0.25	0.83	0.43	1.56	--

Supplementary Table 5. Fold differences comparing expression of G protein γ_2 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_2$ in postsynaptic fractions to $G\gamma_2$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_2$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_2$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_2$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_2$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_2$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\gamma_3$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
Fold Difference Denominator (Fold Difference Denominator Raw Value)		**CTX pre** (7.84E-6)	**CRB pre** 7.84E-6)	**Hippo pre** (2.51E-6)	**Str pre** (8.06E-7)	**CTX post** (1.45E-5)	**CRB post** (5.25E-6)	**Hippo post** (7.62E-6)	**Str post** (1.04E-5)
	CTX pre (7.84E-6)	--	0.40	0.32	0.10	1.85			
	CRB pre (7.84E-6)	2.47	--	0.79	0.25		1.66		
	Hippo pre (2.51E-6)	3.13	1.26	--	0.32			3.04	
	Str pre (8.06E-7)	9.73	3.93	3.11	--				**12.90**
	CTX post (1.45E-5)	0.54				--	0.36	0.52	0.72
	CRB post (5.25E-6)		0.60			2.76	--	1.45	1.98
	Hippo post (7.62E-6)			0.33		1.91	0.69	--	1.36
	Str post (1.04E-5)				0.08	1.40	0.51	0.73	--

Supplementary Table 6. Fold differences comparing expression of G protein γ_3 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_3$ in postsynaptic fractions to $G\gamma_3$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_3$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_3$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_3$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_3$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_3$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\gamma_4$		Fold Difference Numerator (Fold Difference Numerator Raw Value)							
		CTX pre (5.09E-7)	**CRB pre** (1.49E-7)	**Hippo pre** (3.51E-7)	**Str pre** (2.22E-7)	**CTX post** (5.42E-7)	**CRB post** (2.15E-7)	**Hippo post** (8.61E-7)	**Str post** (8.26E-7)
Fold Difference Denominator (Fold Difference Denominator Raw Value)	**CTX pre** (5.09E-7)	--	0.29	0.69	0.44	1.06			
	CRB pre (1.49E-7)	3.42	--	2.36	1.49		1.45		
	Hippo pre (3.51E-7)	1.45	0.42	--	0.63			2.45	
	Str pre (2.22E-7)	2.29	0.67	1.58	--				**3.71**
	CTX post (5.42E-7)	0.94				--	0.40	1.59	1.52
	CRB post (2.15E-7)		0.69			2.52	--	**4.00**	**3.83**
	Hippo post (8.61E-7)			0.41		0.63	0.25	--	0.96
	Str post (8.26E-7)				0.27	0.66	0.26	1.04	--

Supplementary Table 7. Fold differences comparing expression of G protein γ_4 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_4$ in postsynaptic fractions to $G\gamma_4$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_4$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_4$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_4$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_4$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_4$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\gamma_7$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
Fold Difference Denominator (Fold Difference Denominator Raw Value)		**CTX pre** (4.51E-6)	**CRB pre** (1.97E-6)	**Hippo pre** (3.97E-6)	**Str pre** (7.74E-6)	**CTX post** (7.85E-6)	**CRB post** (5.11E-6)	**Hippo post** (1.37E-5)	**Str post** (4.29E-5)
	CTX pre (4.51E-6)	--	0.44	0.88	1.72	1.74			
	CRB pre (1.97E-6)	2.29	--	2.01	3.93		2.59		
	Hippo pre (3.97E-6)	1.14	0.50	--	1.95			3.46	
	Str pre (7.74E-6)	0.58	0.25	0.51	--				**5.55**
	CTX post (7.85E-6)	0.57				--	0.65	1.75	**5.47**
	CRB post (5.11E-6)		0.39			1.54	--	2.69	**8.41**
	Hippo post (1.37E-5)			0.29		0.57	0.37	--	**3.13**
	Str post (4.29E-5)				0.18	0.18	0.12	0.32	--

Supplementary Table 8. Fold differences comparing expression of G protein γ_7 in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_7$ in postsynaptic fractions to $G\gamma_7$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_7$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_7$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_7$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_7$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_7$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\gamma_{12}$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
		CTX pre (6.44E-6)	**CRB pre** (5.08E-6)	**Hippo pre** (2.43E-6)	**Str pre** (1.42E-6)	**CTX post** (1.81E-5)	**CRB post** (1.60E-5)	**Hippo post** (1.30E-5)	**Str post** (1.49E-5)
Fold Difference Denominator (Fold Difference Denominator Raw Value)	**CTX pre** (6.44E-6)	--	0.79	0.38	0.22	**2.81**			
	CRB pre (5.08E-6)	1.27	--	0.48	0.28		**3.16**		
	Hippo pre (2.43E-6)	2.65	2.09	--	0.58			**5.36**	
	Str pre (1.42E-6)	4.53	3.57	1.71	--				**10.46**
	CTX post (1.81E-5)	0.36				--	0.89	0.72	0.82
	CRB post (1.60E-5)		0.32			1.13	--	0.81	0.93
	Hippo post (1.30E-5)			0.19		1.39	1.23	--	1.14
	Str post (1.49E-5)				0.10	1.22	1.08	0.88	--

Supplementary Table 9. Fold differences comparing expression of G protein γ_{12} in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_{12}$ in postsynaptic fractions to $G\gamma_{12}$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_{12}$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_{12}$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_{12}$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_{12}$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_{12}$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.

$G\gamma_{13}$		**Fold Difference Numerator** (Fold Difference Numerator Raw Value)							
		CTX pre (9.11E-6)	**CRB pre** (5.32E-6)	**Hippo pre** (2.26E-6)	**Str pre** (1.04E-6)	**CTX post** (1.10E-5)	**CRB post** (1.18E-5)	**Hippo post** (4.96E-6)	**Str post** (3.86E-6)
Fold Difference Denominator (Fold Difference Denominator Raw Value)	**CTX pre** (9.11E-6)	--	0.58	0.25	0.11	1.21			
	CRB pre (5.32E-6)	1.71	--	0.43	0.20		**2.22**		
	Hippo pre (2.26E-6)	**4.03**	2.35	--	0.46			2.19	
	Str pre (1.04E-6)	**8.76**	5.12	2.18	--				3.71
	CTX post (1.10E-5)	0.83				--	1.07	0.45	0.35
	CRB post (1.18E-5)		0.45			0.93	--	0.42	0.33
	Hippo post (4.96E-6)			0.46		2.22	**2.38**	--	0.79
	Str post (3.86E-6)				0.27	**2.86**	**3.06**	1.29	--

Supplementary Table 10. Fold differences comparing expression of G protein γ_{13} in pre *or* postsynaptic fractions between brain regions and pre *and* postsynaptic fractions within a brain region. Fold differences comparing expression of $G\gamma_{13}$ in postsynaptic fractions to $G\gamma_{13}$ expression in presynaptic fractions within a brain region were calculated by dividing the total normalized area for $G\gamma_{13}$ peptides within the postsynaptic fraction by the total normalized area for $G\gamma_{13}$ peptides within the presynaptic fraction (e.g. CTX post/CTX pre). Fold differences comparing expression of $G\gamma_{13}$ in presynaptic fractions within one brain region to presynaptic expression within another brain region were calculated by dividing the total normalized area for $G\gamma_{13}$ in the presynaptic fraction of one brain region by expression in the presynaptic fraction within a second brain region (e.g. CTX pre/CRB pre). This was also done to compare expression of $G\gamma_{13}$ in postsynaptic fractions between brain regions. Comparisons were not made between pre and postsynaptic fractions of different brain regions. Brain regions and raw total area values for the numerator in these calculations are shown along the top of the table, highlighted in bold and parentheses respectively. Brain regions and raw total area values for the denominator in these calculations are shown along the left of the table, highlighted in bold and parentheses respectively. Raw values and fold differences were rounded to two decimal places. Fold differences that are significant are shown in bold. CTX: cortex; CRB: cerebellum; Hippo: hippocampus; Str: striatum; pre: presynaptic fraction; post: postsynaptic fraction.