

Table 1. Representative examples for glutamic acid and serine concentrations measured in identified isolated neurons from the *A. californica* CNS.

Neuron Identifier	Neuron Phenotype	Glutamic acid (μM)^[a] / (mM)^[b]	Serine (μM)^[a] / (mM)^[b]	Concentration ratio*
<u>a</u>	B1	1.7 / 0.6	1.5 / 0.5	1.1
<u>b</u>	B1	2.0 / 0.7	0.5 / 0.2	4.0
<u>c</u>	B1	3.5 / 1.2	5.1 / 1.8	0.7
<u>d</u>	B1	4.6 / 1.6	12.6 / 4.5	0.4
<u>e</u>	LP11	34.0 / 12.0	6.9 / 2.5	4.9
<u>f</u>	LP11	36.1 / 12.8	7.8 / 2.7	4.6
<u>g</u>	LP11	36.9 / 13.1	9.6 / 3.4	3.8
<u>h</u>	LP11	39.4 / 13.9	8.7 / 3.1	4.5
<u>i</u>	R2	23.7 / 8.4	6.5 / 2.3	3.6
<u>j</u>	R2	33.5 / 11.8	6.8 / 2.4	4.9
<u>k</u>	R2	30.6 / 10.8	4.1 / 1.4	7.4
<u>l</u>	R2	40.9 / 14.5	6.9 / 2.4	5.9
<u>m</u>	R15	8.5 / 10.1	1.4 / 1.7	6.1
<u>n</u>	R15	9.9 / 11.9	2.2 / 2.6	4.5
<u>o</u>	R15	18.0 / 21.5	3.5 / 4.2	5.1
<u>p</u>	R15	22.9 / 27.3	5.3 / 6.4	4.3

Concentrations are given for ^[a]the extract solution and ^[b]cellular concentration, assuming a homogeneous distribution and a spherical average cell diameter of 100 μm for the B1 neurons, 200 μm for the R15 neurons, and 300 μm for the LP11 and R2 neurons. External calibration curves are shown in Figure 4. The relative standard deviation for quantitation was below 15% for chemical standards. *Metabolite ratios were calculated by dividing glutamic acid levels by serine concentrations.