

Table 1. Comparison of unitary inhibitory postsynaptic currents (IPSCs) generated at basket cell (BC)–BC and BC–principal neuron (PN) synapses in parvalbumin-EGFP and wild-type (WT) mice

	CA1	CA3	DG	DG (WT)
	BC–BC	BC–BC	BC–BC	BC–BC
Chemical interactions (IPSCs)	8 of 9	5 of 6	7 of 9	8 of 10
Latency IPSC	0.68 ± 0.03 ms	0.6 ± 0.1 ms	0.65 ± 0.1 ms	0.9 ± 0.1 ms
20–80% rise time	0.27 ± 0.02 ms	0.25 ± 0.02 ms	0.3 ± 0.03 ms	0.2 ± 0.01 ms
Decay τ_w	1.7 ± 0.1 ms	1.2 ± 0.2 ms	2.5 ± 0.4 ms	2.3 ± 0.3 ms
Peak amplitude	208 ± 54 pA	160 ± 46 pA	93 ± 22 pA	104 ± 28 pA
CV peak amplitude	18 ± 1%	16 ± 2%	26 ± 4%	26 ± 2%
τ_1	1.2 ± 0.1 ms	0.8 ± 0.2 ms	1.0 ± 0.2 ms	1.4 ± 0.2 ms
τ_2	8.0 ± 1.2 ms	3.8 ± 1.0 ms	10.0 ± 2.8 ms	9.3 ± 1.7 ms
$A_1/(A_1 + A_2)$	0.9 ± 0.03	0.84 ± 0.07	0.74 ± 0.08	0.81 ± 0.06
Percentage of failures	4 ± 3%	10 ± 10%	5 ± 3%	5 ± 4%
PPD at 50 ms	36 ± 2%	37 ± 4%	24 ± 4%	26 ± 4%
Reciprocal chemical coupling	1 of 8	3 of 5	3 of 7	4 of 8
Electrical interactions (electrical PSCs)	2 of 9	3 of 6	3 of 9	6 of 10
Peak amplitude	15 pA	89 ± 25 pA	31 ± 10 pA	84 ± 16 pA
	BC–PN	BC–PN	BC–PN	BC–PN
Chemical interactions (IPSCs)	5 of 5	3 of 3	3 of 3	4 of 4
Latency IPSC	0.9 ± 0.1 ms	1.1 ± 0.1 ms	0.9 ± 0.1 ms	0.7 ± 0.1 ms
20–80% rise time	0.3 ± 0.02 ms	0.3 ± 0.02 ms	0.2 ± 0.03 ms	0.2 ± 0.02 ms
Decay τ_w	3.5 ± 0.5 ms	3.3 ± 0.1 ms	3.4 ± 0.4 ms	3.3 ± 0.2 ms
Peak amplitude	387 ± 213 pA	214 ± 83.5 pA	81.5 ± 11 pA	200 ± 50 pA
CV peak amplitude	28 ± 5%	32 ± 4%	40 ± 4%	27 ± 3%
τ_1	1.2 ± 0.4 ms	1.2 ± 0.4 ms	1.8 ± 0.7 ms	1.3 ± 0.2 ms
τ_2	7.3 ± 1.9 ms	5.9 ± 0.2 ms	8.5 ± 3.7 ms	5.6 ± 0.4 ms
$A_1/(A_1 + A_2)$	0.6 ± 0.08	0.6 ± 0.04	0.6 ± 0.2	0.5 ± 0.08
Percentage of failures	3 ± 2%	0%	5.5 ± 4%	2.5 ± 2.5%
PPD at 50 ms	33 ± 3%	31 ± 1%	28 ± 3%	39 ± 1%

Electrical interactions

0 of 5

0 of 3

0 of 3

0 of 4

Values indicate mean \pm SEM. Numbers given refer to the subset of pairs in which interactions (electrical, chemical, or both) were evident. In total, interactions were observed in approximately $> 60\%$ of all pairs of EGFP-positive BCs recorded. Values were measured from average IPSCs (failures included). PPD was determined only in a subset of pairs. CV, coefficient of variation = standard deviation/mean. As the properties of unitary IPSCs at BC-BC synapses in the DG of parvalbumin-EGFP mice were indistinguishable from those of WT mice, it was unlikely that synaptic transmission was altered by the expression of EGFP in the transgenic animals.