Recording	Animal	Strain	Drug	Whisking	# cortical units	Time CNO/PBS drop (min)
1	1	GlyT2	CNO	poor	18	10
2	1	GlyT2	CNO	good	5 (4)	10
3	2	GlyT2	CNO	good	8 (7)	10
4	2	GlyT2	CNO	good	12 (11)	10
5	3	GlyT2	CNO	good	10	10
6	3	GlyT2	CNO	good	10 (6)	10
7	4	GlyT2	CNO	good	8	20
8	5	GlyT2	CNO	absent	27	20
9	6	GlyT2	CNO	good	61	20
10	7	GlyT2	CNO	good	76	20
11	7	GlyT2	CNO	good	24	20
12	8	GlyT2	CNO	absent	5	20
13	8	GlyT2	CNO	poor	30	20
14	9	GlyT2	CNO	good	58	20
15	9	GlyT2	CNO	good	23	20
16	10	GlyT2	CNO	good	46	20
17	10	GlyT2	CNO	good	49	20
18	11	GlyT2	CNO	poor	9	20
19	11	GlyT2	CNO	poor	29	20
20	12	WT	CNO	good	96 (88)	10
21	13	WT	CNO	good	28	20
22	13	WT	CNO	good	31	20
23	14	WT	CNO	good	14	20
24	14	WT	CNO	good	55 (54)	20
25	4	GlyT2	PBS	good	8	20
26	5	GlyT2	PBS	absent	23	20
27	6	GlyT2	PBS	good	31	20
28	15	WT	PBS	good	88	20
29	15	WT	PBS	poor	38	20
30	16	WT	PBS	good	61	20
31	16	WT	PBS	good	28	20
32	17	WT	PBS	good	52	20
33	17	WT	PBS	good	25	20

Table 1: Neuronal and behavioural data. Each animal underwent two recordings (except animal 12). Each recording was performed on either GlyT2 or WT (wild-type) mice; GlyT2 mice expressed Cre-recombinase selectively in Golgi cells in the cerebellar cortex, and therefore only in these mice CNO could selectively decrease Golgi cell inhibition. The three experimental conditions are called 'GlyT2+CNO', in which CNO was used on GlyT2 mice, 'WT+CNO' in which CNO was used on WT mice, and 'vehicle', in which PBS was used on either injected GlyT2 mice (3 recordings) or WT mice (6 recordings); the 'WT+CNO' and 'vehicle' conditions were pooled into one 'control' condition, after assessing for the specific effect of our manipulation on total cerebellar cortical spike counts using the statistical model described in equations 1-4. For this statistical analysis of spike counts, we used all units from all recordings (n=1086 units, N=33 recordings). In all other analyses, instead, we excluded recordings with absent/poor whisking activity (n=25 left after exclusion), as the analyses required concomitant behavioural and neuronal information; for the same reason, we additionally excluded a small number of units (n=16, remaining number of units in parenthesis) whose activity was absent or too sparse during whisking periods in order to compute the peri-event time histogram. Poor whisking behaviour was defined as a flat trial-averaged whisker position trace for either or both pre- and post- drop periods, as shown in Figure5a.