

Motor learning refines premotor cortical constraint during skilled forelimb behavior

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Supplementary Figures

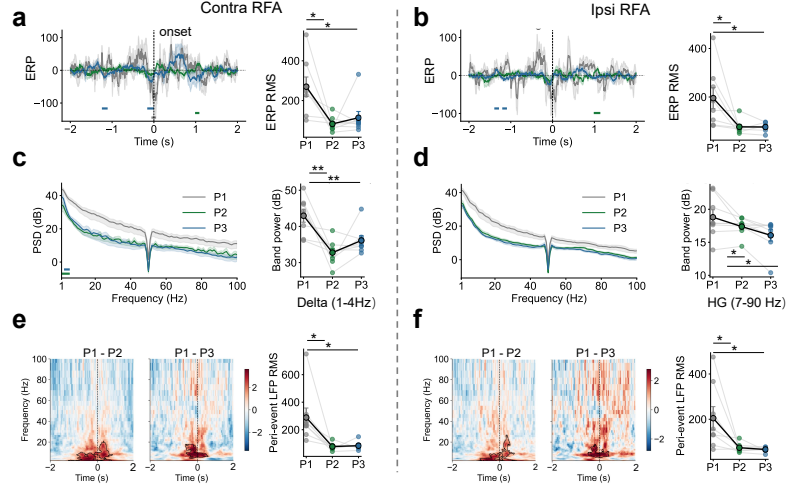


Fig. S1 SPR-related LFP attenuation across motor learning is preserved in successful trials. a,b, Retrieval-aligned event-related potentials (ERPs) in contralateral (a) and ipsilateral (b) RFA across learning phases P1–P3, restricted to successful retrieval trials. Time 0 denotes pellet retrieval onset; shaded regions indicate s.e.m. Right, LFP root-mean-square (RMS) amplitude quantified over the full analysis window. c,d, Power spectral density (PSD) in contralateral (c) and ipsilateral (d) RFA across learning phases, restricted to successful retrieval trials. Horizontal bars indicate significant frequency clusters identified by trial-level cluster-based permutation tests. Right, rat-level delta-band power (1–4 Hz) in contralateral RFA (c) and high-gamma power (70–90 Hz) in ipsilateral RFA (d). e,f, Time–frequency differences in baseline-normalized LFP power between P1 and P2 and between P1 and P3 in contralateral (e) and ipsilateral (f) RFA for successful retrieval trials. Power was normalized to the –3 to –2 s baseline and expressed in decibels. Black contours indicate significant time–frequency clusters identified by trial-level cluster-based permutation tests. Right, pre-event LFP RMS quantified over –2 to 0.3 s. For rat-level comparisons, lines connect measurements from the same animal and black symbols indicate mean $\pm$ s.e.m. ($n = 8$ rats). Rat-level comparisons were performed using two-sided paired t -tests with false-discovery-rate (FDR) correction. $P < 0.05$ was considered significant.

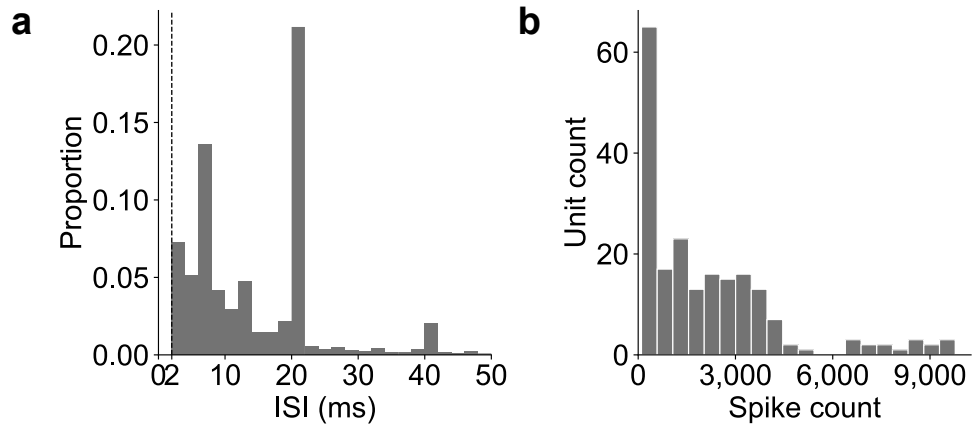


Fig. S2 Distribution of interspike intervals and spike counts across recorded units. a, Distribution of interspike intervals (ISIs) across all recorded units, expressed as the proportion of intervals within each bin. The vertical dashed line indicates the 2-ms refractory-period threshold. b, Distribution of total spike counts across units over the analyzed recording period.

References