

Category	Region	Fragile X Mouse Phenotype	Age	References
mGluR LTD	hippocampus	enhanced	P25-30	Huber et al., <i>PNAS</i> , 2002; Hou et al., <i>Neuron</i> , 2006; Bhattacharya et al., <i>Neuron</i> , 2012; Michalon et al., <i>Neuron</i> , 2012
mGluR LTD	hippocampus	does not require new protein synthesis	4-12 wk	Nosyreva and Huber, <i>J Neurophys</i> , 2006; Hou, et al., <i>Neuron</i> , 2006; Zang et al., <i>PLoS Genetics</i> , 2009
mGluR LTD	hippocampus	<b>[Fmr1 CGG premutation KI mouse]</b> enhanced and not PS-dependent	P35-42	Iliff et al., <i>Hum Mol Genet</i> , 2012
mGluR LTD	cerebellum	enhanced	3-7 wk	Koekkoek et al., <i>Neuron</i> , 2005
mAChR LTD	hippocampus	enhanced and does not require new protein synthesis	3-7 wk	Volk et al., <i>J Neurosci</i> , 2007
LTP	hippocampus	NONE	20-26 wk; 8-10 wk; 3-12 month	Godfraind et al., <i>Am J Med Genet</i> , 1996; Li et al., <i>Mol Cell Neurosci</i> , 2002; Larson et al., <i>J Neurosci</i> , 2005
L-LTP	hippocampus	NONE	5-7 wk; 2-4 month	Paradee et al., <i>Neuroscience</i> , 1999; Zhang et al., <i>J Neurophys</i> , 2009
LTP	hippocampus	deficient	2 wk; 6-8 wk	Hu et al., <i>J Neurosci</i> , 2008; Shang et al., <i>J Neurochem</i> , 2009
LTP	hippocampus	deficient with weak stimulus; normal with strong stimulus	2-3 month	Lauterborn et al., <i>J Neurosci</i> , 2007
LTP	hippocampus	enhanced B-adrenergic-facilitated heterosynaptic LTP (PS-dependent)	3-4 month	Connor et al., <i>Learn Mem</i> , 2011
LTP priming	hippocampus	does not require new protein synthesis (mGluR-dependent)	6-10 wk	Auerbach and Bear, <i>J Neurophys</i> , 2010
LTP	anterior cingulate ctx	deficient	6-8 wk	Zhao et al., <i>J Neurosci</i> , 2005; Xu et al., <i>PLoS One</i> , 2012
LTP	anterior cingulate ctx	impaired facilitation of LTP by 5-HT2AR agonist	6-8 wk	Xu et al., <i>PLoS One</i> , 2012
LTP	somatosensory, temporal ctx	deficient	8-10 wk; 3 month	Li et al., <i>Mol Cell Neurosci</i> , 2002; Hayashi et al., <i>PNAS</i> , 2007
LTP	somatosensory ctx	delayed window for plasticity	P3-10	Harlow et al., <i>Neuron</i> , 2010
LTP	visual ctx	deficient (mGluR-dependent)	P13-25	Wilson and Cox, <i>Neuron</i> , 2007
LTP	anterior piriform ctx	deficient in aged mice; normal in 3-6 mo mice	6-18 month	Larson et al., <i>J Neurosci</i> , 2005
LTP	amygdala	impaired (mGluR-dependent)	6-8 wk; 3.5-6 mo	Zhao et al., <i>J Neurosci</i> , 2005; Suvrathan et al., <i>PNAS</i> , 2010
STD-LTP	somatosensory ctx	deficient with weak stimulus	P10-18	Desai et al., <i>J Neurophys</i> , 2006
STD-LTP	prefrontal ctx	deficient with weak stimulus; normal with strong stimulus	P14-23	Meredith et al., <i>Neuron</i> , 2007
homeostasis	hippocampus	deficient translation-dependent scaling	P6-7 slice culture	Soden and Chen, <i>J Neurosci</i> , 2010
homeostasis	hippocampus	normal transcription-dependent scaling	P6-7 slice culture	Soden and Chen, <i>J Neurosci</i> , 2010
experience-dependent	visual ctx (in vivo)	altered ocular dominance plasticity	LTD	Dolen et al., <i>Neuron</i> , 2007
experience-dependent	somatosensory ctx	deficient experience-dependent plasticity (induced by whisker trimming)	LTD	Bureau et al., <i>J Neurosci</i> , 2008