Supplementary Table 1

Treatment	Reference
AAV9/*Mecp2*	Garg, S.K. et al. (2013) Systemic delivery of MeCP2 rescues behavioral and cellular deficits in female mouse models of Rett syndrome. *J. Neurosci.* 33,13612-20. Gadalla, K.K. et al. (2013) Improved survival and reduced phenotypic severity following AAV9/MECP2 gene transfer to neonatal and juvenile male Mecp2 knockout mice. *Mol. Ther.* 21,18-30.
Desipramine	Roux, J.C. et al. (2007) Treatment with desipramine improves breathing and survival in a mouse model for Rett syndrome. *Eur. J. Neurosci.* 25, 1915–1922.
Clenbuterol	Mellios, N. et al. (2014) β2-Adrenergic receptor agonist ameliorates phenotypes and corrects microRNA-mediated IGF1 deficits in a mouse model of Rett syndrome. *Proc. Natl. Acad. Sci. U.S.A.* 111, 9947-9952.
Citalopram	Toward, M.A. et al. (2013) Increasing brain serotonin corrects CO2 chemosensitivity in methyl-CpG-binding protein 2 (Mecp2)-deficient mice. *Exp. Physiol.* 98 842-849.
LP-211	De Filippis, B. et al. (2015) Long-lasting beneficial effects of central serotonin receptor 7 stimulation in female mice modeling Rett syndrome. *Front. Behav. Neurosci.* DOI: 10.3389/fnbeh.2015.00086.
L-Dopa Benserazide	Szczesna, K. et al. (2014) Improvement of the Rett Syndrome phenotype in a *Mecp2* mouse model upon treatment with Levodopa and a Dopa-Decarboxylase Inhibitor. *Neuropsychopharmacology* 39, 2846–2856.
Sarizotan	Abdala, A.P. et al. (2014) Effect of sarizotan, a 5-HT1a and D2-like receptor agonist, on respiration in the three mouse models of Rett syndrome. *Am. J. Respir. Cell. Mol. Biol.* 50, 1031-1039.
NLX-101	Levitt, E.S. et al. (2013) A selective 5-HT1a receptor agonist improves respiration in a mouse model of Rett syndrome. *J. Appl. Physiol.* 115, 1626-1633.
Ketamine	Patrizi, A. et al. (2015) Chronic administration of the *N*-Methyl-D-Aspartate receptor antagonist ketamine improves Rett Syndrome phenotype. *Biol. Psychiatry* DOI: 10.1016/j.biopsych.2015.08.018.
Midazolam	Voituron, N. and Hilaire, G. (2011) The benzodiazepine Midazolam mitigates the breathing defects of Mecp2-deficient mice. *Respir. Physiol. Neurobiol.* 177, 56-60.
NO-711 L-838,417	Abdala, A.P. et al. (2010) Correction of respiratory disorders in a mouse model of Rett syndrome. *Proc. Natl. Acad. Sci. U.S.A.* 107, 18208-18213.
Acetyl-L-carnitine	Schaevitz, L.R. et al. (2012) Acetyl-L-carnitine improves behavior and dendritic morphology in a mouse model of Rett syndrome. *PLoS One* DOI: 10.1371/journal.pone.0051586.
Choline	Riccer, L. et al. (2011) Cholinergic hypofunction in MeCP2-308 mice: beneficial neurobehavioural effects of neonatal choline supplementation. *Behav. Brain. Res.* 221, 623-629.
LM22A-4	Kron, M. et al. (2014) A BDNF loop-domain mimetic acutely reverses spontaneous apneas and respiratory abnormalities during behavioral arousal in a mouse model of Rett syndrome. *Dis. Model Mech.* 7, 1047-1055. Schmid, D. et al. (2011) A TrkB small molecule partial agonist rescues TrkB phosphorylation deficits and improves respiratory function in a mouse model of Rett syndrome. *J. Neurosci.* 32, 1803-1810.
Fingolimod	Deogracias, R. et al. (2012) Fingolimod, a sphingosine-1 phosphate receptor modulator, increases BDNF levels and improves symptoms of a mouse model of Rett syndrome. *Proc. Natl. Acad. Sci. U.S.A.* 109, 14230-14235.
7,8-DHF	Johnson, R.A. et al. (2012) 7,8-dihydroxyflavone exhibits therapeutic efficacy in a mouse model of Rett syndrome. *J. Appl. Physiol. (1985).* 112, 704-710.
CX546	Ogier, M. et al. (2007) Brain-derived neurotrophic factor expression and respiratory

	function improve after ampakine treatment in a mouse model of Rett syndrome. *J. Neurosci.* 27, 10912-10917.
Copaxone	Ben-Zeev, B. et al. (2011) Glatiramer acetate (GA, Copolymer-1) an hypothetical treatment option for Rett syndrome. *Med. Hypotheses* 76, 190-193.
CPT157633	Krishnan, N. et al. (2015). PTP1B inhibition suggests a therapeutic strategy for Rett syndrome. *J. Clin. Invest.* 125, 3163-77.
UA0713	Krishnan, N. et al. (2015). PTP1B inhibition suggests a therapeutic strategy for Rett syndrome. *J. Clin. Invest.* 125, 3163-77.
rhIGF1	Castro, J. et al. (2014) Functional recovery with recombinant human IGF1 treatment in a mouse model of Rett Syndrome. *Proc. Natl. Acad. Sci. U.S.A.* 111, 9941-9946.
(1-3) IGF-1	Tropea, D. et al. (2009) Partial reversal of Rett Syndrome-like symptoms in MeCP2 mutant mice. *Proc. Natl. Acad. Sci. U.S.A.* 106, 2029-2034.
Statins (Fluvastatin, Lovastatin)	Buchovecky, C.M. et al. (2013) A suppressor screen in *Mecp2* mutant mice implicates cholesterol metabolism in Rett syndrome. *Nat. Genet.* 45, 1013-1020.
Corticosterone	De Filippis B. et al. (2013) Neonatal exposure to low dose corticosterone persistently modulates hippocampal mineralocorticoid receptor expression and improves locomotor/exploratory behaviour in a mouse model of Rett syndrome. *Neuropharmacology* 68, 174-183.
CNF1	De Filippis, B. et al. (2015) Mitochondrial free radical overproduction due to respiratory chain impairment in the brain of a mouse model of Rett syndrome: protective effect of CNF1. *Free. Radic. Biol. Med.* 83, 167-177.
Triheptanoin	Park, M. J. et al. (2014) Anaplerotic triheptanoin diet enhances mitochondrial substrate use to remodel the metabolome and improve lifespan, motor function, and sociability in MeCP2-null mice. *PLoS One* DOI: 10.1371/journal.pone.0109527.
Phenytoin	Herrera, A.J. et al. (2015) Treatment of cardiac arrhythmias in a mouse model of Rett syndrome with Na+-channel-blocking antiepileptic drugs. *Dis. Model Mech.* 8, 363-371.