



Multi Conditioning System



Scientific Publications

2024

Jovasevic V., Wood E.M., Cicvaric A., Zhang H., Petrovic Z., Carboncino A., Parker K.K., Bassett T.E., Moltesen M., Yamawaki N., Login H., Kalucka J., Sananbenesi F., Zhang X., Fischer A., Radulovic J. Formation of memory assemblies through the DNA-sensing TLR9 pathway.

Nature 2024; 628(8006): 145-53.

<https://doi.org/10.1038/s41586-024-07220-7>

Multi Conditioning System (FCS)

Kovlyagina I., Wierczeiko A., Todorov H., Jacobi E., Tevosian M., von Engelhardt J., Gerber S., Lutz B.

Leveraging interindividual variability in threat conditioning of inbred mice to model trait anxiety. PLoS Biol 2024; 22(5): e3002642.

<https://doi.org/10.1371/journal.pbio.3002642>

Multi Conditioning System (FCS)

Pan G., Chai L., Chen R., Yuan Q., Song Z., Feng W., Wei J., Yang Z., Zhang Y., Xie G., Yan A., Lv Q., Wang C., Zhao Y., Wang Y. Potential mechanism of Qinggong Shoutao pill alleviating age-associated memory decline based on integration strategy. Pharm Biol 2024; 62(1): 105-19.

<https://doi.org/10.21203/rs.3.rs-2028233/v1>

Multi Conditioning System (2Comp: Active Avoidance)

Qi X., Li L., Ye P., Xie M. Macrophage Membrane-Modified MoS₂ Quantum Dots as a Nanodrug for Combined Multi-Targeting of Alzheimer's Disease. Advanced Healthcare Materials 2024; 13(6): 2303211.

<https://doi.org/10.1002/adhm.202303211>

Multi Conditioning System (FCS)

Sigrist H., Hogg D.E., Senn A., Pryce CR. Mouse Model of Chronic Social Stress-Induced Excessive Pavlovian Aversion Learning-Memory. Curr Protoc 2024; 4(3): e1008.

doi:10.1002/cpz1.1008.PMID:38465468.

Multi Conditioning System (2Comp:FCS Basic)

Wang L., Wojcieszak J., Kumar R., Zhao Z., Sun X., Xie S., Winblad B., Pavlov PF. FKBP51-Hsp90 Interaction-Deficient Mice Exhibit Altered Endocrine Stress Response and Sex Differences Under High-Fat Diet. Mol Neurobiol 2024; 61(3): 1479-94.

<https://doi.org/10.1007/s12035-023-03627-x>

Multi Conditioning System (FCS)

Zhu C., Ren X., Liu C., Liu Y., Wang Y. Rbm8a regulates neurogenesis and reduces Alzheimer's disease-associated pathology in the dentate gyrus of 5xFAD mice. Neural Regen Res 2024; 19(4): 863-71.

<https://doi.org/10.4103/1673-5374.382254>

Multi Conditioning System (FCS, ActiMot: Open Field)

2023

Fan Z., Ardicoglu R., Batavia A.A., Rust R., von Ziegler L., Waag R., Zhang J., Desgeorges T., Sturman O., Dang H., Weber R., Roszkowski M., Moor A.E., Schwab M.E., Germain P.L., Bohacek J., De Bock K. The vascular gene *Apold1* is dispensable for normal development but controls angiogenesis under pathological conditions. *Angiogenesis* 2023; 26(3):385-407.

<https://doi.org/10.1007/s10456-023-09870-z>

Multi Conditioning System (2Comp: Light-Dark, ActiMot: Open Field)

Huang W.C., Peng Z., Murdock M.H., Liu L., Mathys H., Davila-Velderrain J., Jiang X., Chen M., Ng A.P., Kim T., Abdurrob F., Gao F., Bennett D.A., Kellis M., Tsai LH. Lateral mammillary body neurons in mouse brain are disproportionately vulnerable in Alzheimer's disease. *Sci Transl Med* 2023; 15(692): eabq1019.

<https://doi.org/10.1126/scitranslmed.abq1019>

Multi Conditioning System (FCS)

Shirenova S.D., Khlebnikova N.N., Narkevich V.B., Kudrin V.S., Krupina NA. Nine-month-long Social Isolation Changes the Levels of Monoamines in the Brain Structures of Rats: A Comparative Study of Neurochemistry and Behavior . *Neurochem Res* 2023; 48(6): 1755-74.

<https://doi.org/10.1007/s11064-023-03858-3>

Multi Conditioning System (2Comp: Passive Avoidance)

Yang S.H., Yang E., Lee J., Kim J.Y., Yoo H., Park H.S., Jung J.T., Lee D., Chun S., Jo Y.S., Pyeon G.H., Park J.Y., Lee H.W., Kim H. Neural mechanism of acute stress regulation by trace aminergic signalling in the lateral habenula in male mice. *Nat Commun* 2023; 14(1): 2435.

<https://doi.org/10.1038/s41467-023-38180-7>

Multi Conditioning System (2Comp: US Model)

Zoicas I., Mühle C., Schumacher F., Kleuser B., Kornhuber J . Development of Comorbid Depression after Social Fear Conditioning in Mice and Its Effects on Brain Sphingolipid Metabolism. *Cells* 2023; 12(10): 1355.

<https://doi.org/10.3390/cells12101355>

Multi Conditioning System (FCS)

2022

Burns A.M., Farinelli-Scharly M., Hugues-Ascery S., Sanchez-Mut J.V., Santoni G., Gräff J. The HDAC inhibitor CI-994 acts as a molecular memory aid by facilitating synaptic and intracellular communication after learning. *Proc Natl Acad Sci U S A* 2022; 119(22): e2116797119.

<https://doi.org/10.1073/pnas.2116797119>

Multi Conditioning System (FCS)

Chithanathan K., Somelar K., Jürgenson M., Žarkovskaja T., Periyasamy K., Yan L., Magilnick N., Boldin M.P., Rebane A., Tian L., Zharkovsky A. Enhanced Cognition and Neurogenesis in miR-146b Deficient Mice. *Cells* 2022; 11(13): 2002.

<https://doi.org/10.3390/cells11132002>

Multi Conditioning System (FCS)

Daswani R., Gilardi C., Soutschek M., Nanda P., Weiss K., Bicker S., Fiore R., Dieterich C., Germain P.L., Winterer J., Schratt G. MicroRNA-138 controls hippocampal interneuron function and short-term memory in mice. *eLife* 2022; Mar 15: 11:e74056.

<https://doi.org/10.7554/eLife.74056>

Multi Conditioning System (FCS, 2Comp: Passive Avoidance)

Dixsaut L., Gräff J. Brain-wide screen of prelimbic cortex inputs reveals a functional shift during early fear memory consolidation. *eLife* 2022; Jul 15: 11:e78542.

<https://doi.org/10.7554/eLife.78542>

Multi Conditioning System (FCS)

Emre C., Arroyo-García L.E., Do K.V., Jun B., Ohshima M., Alcalde S.G., Cothorn M.L., Maioli S., Nilsson P., Hjorth E., Fisahn A., Bazan N.G., Schultzberg M. Intranasal delivery of pro-resolving lipid mediators rescues memory and gamma oscillation impairment in AppNL-G-F/NL-G-F mice. *Commun Biol* 2022; 5(1): 245.

<https://doi.org/10.1038/s42003-022-03169-3>

Multi Conditioning System (FCS)

Hamann C.S., Bankmann J., Mora Maza H., Kornhuber J., Zoicas I., Schmitt-Böhrer A. Social Fear Affects Limbic System Neuronal Activity and Gene Expression. *Int J Mol Sci* 2022; 23(15): 8228.

<https://doi.org/10.3390/ijms23158228>

Multi Conditioning System (FCS: Social Fear)

Hu H., Yang X., He Y., Duan C., Sun N. Psychological stress induces depressive-like behavior associated with bone marrow-derived monocyte infiltration into the hippocampus independent of blood-brain barrier disruption. *J Neuroinflammation* 2022; 19(1): 208.

<https://doi.org/10.1186/s12974-022-02569-w>

Multi Conditioning System (2Comp: Learned Helplessness)

Ineichen C., Greter A., Baer M., Sigrist H., Sautter E., Sych Y., Helmchen F., Pryce CR. Basomedial amygdala activity in mice reflects specific and general aversion uncontrollability. *Eur J Neurosci* 2022; 55(9-10): 2435-54.

<https://doi.org/10.1111/ejn.15090>

Multi Conditioning System (2Comp: Learned Helplessness)

Keller C., Rading S., Bindila, L., Karsak M. Behavioral Studies of p62 KO Animals with Implications of a Modulated Function of the Endocannabinoid System. *Cells* 2022; 11(9): 1517.

<https://doi.org/10.3390/cells11091517>

Multi Conditioning System (FCS)

Luo W., Yun D., Hu Y., Tian M., Yang J., Xu Y., Tang Y., Zhan Y., Xie H., Guan JS. Acquiring new memories in neocortex of hippocampal-lesioned mice. *Nat Commun* 2022; 13(1): 1601.

<https://doi.org/10.1038/s41467-022-29208-5>

Multi Conditioning System (FCS)

Marks M., Qiuhan J., Sturman O., von Ziegler L., Kollmorgen S., von der Behrens W., Mante V., Bohacek J., Yanik MF. Deep-learning-based identification, tracking, pose estimation and behaviour classification of interacting primates and mice in complex environments. *Nat Mach Intell* 2022; 4(4): 331-40.

<https://doi.org/10.1038/s42256-022-00477-5>

Multi Conditioning System (ActiMot: Open Field)

Mazura A.D., Ohler A., Storck SE. PCSK9 acts as a key regulator of A-Beta clearance across the blood-brain barrier. *Cell Mol Life Sci* 2022; 79(4): 212.

<https://doi.org/10.1007/s00018-022-04237-x>

Multi Conditioning System (FCS)

Mueller F.S., Amport R., Notter T., Schalbetter S.M., Lin H.Y., Garajova Z., Amini P., Weber-Stadlbauer U., Markkanen E. Deficient DNA base-excision repair in the forebrain leads to a sex-specific anxiety-like phenotype in mice. *BMC Biol* 2022; 20(1): 170.

<https://doi.org/10.1186/s12915-022-01377-1>

Multi Conditioning System (FCS; 2Comp:Light-Dark)

Paul A.K., Woolley K.L., Rahmatullah M., Wilairatana P., Smith J.A., Gueven N., Dietis N. Differential Effects of a Novel Opioid Ligand UTA1003 on Antinociceptive Tolerance and Motor Behaviour. *Pharmaceuticals* 2022; 15(7): 789.

<https://doi.org/10.3390/ph15070789>

Multi Conditioning System (ActiMot: Open Field)

Ren L.Y., Cicvaric A., Zhang H., Meyer M.A., Guedea A.L., Gao P., Petrovic Z., Sun X., Lin Y., Radulovic J. Stress-induced changes of the cholinergic circuitry promote retrieval-based generalization of aversive memories. *Mol Psychiatry* 2022; May 12: s41380-022-01610-.

<https://doi.org/10.1038/s41380-022-01610-x>

Multi Conditioning System (FCS)

Schalbetter S.M., von Arx A.S., Cruz-Ochoa N., Dawson K., Ivanov A., Mueller F.S., Lin H.Y., Amport R., Mildenerger W., Mattei D., Beule D., Földy C., Greter M., Notter T., Meyer U. Adolescence is a sensitive period for prefrontal microglia to act on cognitive development. *Sci Adv* 2022; 8(9): eabi6672.

<https://doi.org/10.1126/sciadv.abi6672>

Multi Conditioning System (FCS, 2Comp: Light-Dark)

Wojtas A., Bysiek A., Wawrzczak-Bargiela A., Szych Z., Majcher-Maslanka I., Herian M., Mackowiak M., Golembiowska K. Effect of Psilocybin and Ketamine on Brain Neurotransmitters, Glutamate Receptors, DNA and Rat Behavior. *Int J Mol Sci* 2022; 23(12): 6713.

<https://doi.org/10.3390/ijms23126713>

Multi Conditioning System (2Comp: Light-Dark)

Yan Y., Tian M., Li M., Zhou G., Chen Q., Xu M., Hu Y., Luo W., Guo X., Zhang C., Xie H., Wu Q.F., Xiong W., Liu S., Guan JS. ASH1L haploinsufficiency results in autistic-like phenotypes in mice and links Eph receptor gene to autism spectrum disorder. *Neuron* 2022; 110(7): 1156-72.e9.

<https://doi.org/10.1016/j.neuron.2021.12.035>

Multi Conditioning System (FCS, ActiMot: Open Field)

von Ziegler L.M., Floriou-Servou A., Waag R., Das Gupta R.R., Sturman O., Gapp K., Maat C.A., Kockmann T., Lin H.Y., Duss S.N., Privitera M., Hinte L., von Meyenn F., Zeilhofer H.U., Germain P.L., Bohacek J. Multiomic profiling of the acute stress response in the mouse hippocampus. *Nat Commun* 2022; 13(1): 1824.

<https://doi.org/10.1038/s41467-022-29367-5>

Multi Conditioning System (ActiMot: Open Field)

2021

Banach M., Rudkowska M., Sumara A., Borowicz-Reutt K. Amiodarone Enhances Anticonvulsive Effect of Oxcarbazepine and Pregabalin in the Mouse Maximal Electroshock Model. *Int J Mol Sci* 2021; 22(3): 1041. <https://doi.org/10.3390/ijms22031041>

Multi Conditioning System (2Comp: Passive Avoidance)

Borowicz-Reutt K.K., Banach M., Rudkowska M., Stachniuk A. Sotalol does not interfere with the antielectroshock action of selected second-generation antiepileptic drugs in mice. *Pharmacol Rep* 2021; 73(2): 516-24.

<https://doi.org/10.1007/s43440-020-00210-2>

Multi Conditioning System (2Comp: Passive Avoidance)

Chvojkova M., Kubova H., Vales K. Effects of Dizocilpine, Midazolam and Their Co-Application on the Trimethyltin (TMT)-Induced Rat Model of Cognitive Deficit. *Brain Sci* 2021; 11(3): 400.

<https://doi.org/10.3390/brainsci11030400>

Multi Conditioning System (FCS, ActiMot: Open Field)

Eroli F., Johnell K., Latorre-Leal M., Hilmer S., Wastesson J., Cedazo-Minguez A., Maioli S. Long-term exposure to polypharmacy impairs cognitive functions in young adult female mice. *Aging* 2021; 13(11): 14729.

<https://doi.org/10.18632/aging.203132>

Multi Conditioning System (FCS)

Fernández-Suárez D., Krapacher F.A., Pietrajtis K., Andersson A., Kisiswa L., Carrier-Ruiz A., Diana M.A., Ibáñez CF. Adult medial habenula neurons require GDNF receptor GFR 1 for synaptic stability and function. *PLoS Biol* 2021; 19(11): e3001350.

<https://doi.org/10.1371/journal.pbio.3001350>

Multi Conditioning System (FCS)

Holubova K., Chvojkova M., Hrcka Krausova B., Vyklicky V., Kudova E., Chodounska H., Vyklicky L., Vales K. Pitfalls of NMDA Receptor Modulation by Neuroactive Steroids. The Effect of Positive and Negative Modulation of NMDA Receptors in an Animal Model of Schizophrenia. *Biomolecules* 2021; 11(7): 1026.

<https://doi.org/10.3390/biom11071026>

Multi Conditioning System (2Comp: Passive Avoidance, ActiMot: Open Field)

Hung P.L., Wu KLH, Chen C.J., Siu K.K., Hsin Y.J., Wang L.J., Wang FS. Music-Based Intervention Ameliorates Mecp2-Loss-Mediated Sociability Repression in Mice through the Prefrontal Cortex FNDC5/BDNF Pathway. *Int J Mol Sci* 2021; 22(13): 7174.

<https://doi.org/10.3390/ijms22137174>

Multi Conditioning System (ActiMot: Open Field)

Jovasevic V., Zhang H., Petrovic Z., Cicvaric A., Radulovic J. Protocol for assessing the role of hippocampal perineuronal nets in aversive memories. *STAR Protoc* 2021; 2(4): 100931.

<https://doi.org/10.1016/j.xpro.2021.100931>

Multi Conditioning System (FCS)

Jovasevic V., Zhang H., Sananbenesi F., Guedea A.L., Soman K.V., Wiktorowicz J.E., Fischer A., Radulovic J. Primary cilia are required for the persistence of memory and stabilization of perineuronal nets. *iScience* 2021; 24(6): 102617.

<https://doi.org/10.1016/j.isci.2021.102617>

Multi Conditioning System (FCS)

Lin T.K., Lin K.J., Lin H.Y., Lin K.L., Lan M.Y., Wang P.W., Wang T.J., Wang F.S., Tsai P.C., Liou C.W., Chuang JH. Glucagon-Like Peptide-1 Receptor Agonist Ameliorates 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine (MPTP) Neurotoxicity Through Enhancing Mitophagy Flux and Reducing α -Synuclein and Oxidative Stress. *Front Mol Neurosci* 2021; 14: 697440.

<https://doi.org/10.3389/fnmol.2021.697440>

Multi Conditioning System (FCS)

Milic M., Schmitt U., Lutz B., Müller MB. Individual baseline behavioral traits predict the resilience phenotype after chronic social defeat. *Neurobiol Stress* 2021; 14: 100290.

<https://doi.org/10.1016/j.ynstr.2020.100290>

Multi Conditioning System (2Comp: Passive Avoidance)

Osborne B.F., Beamish S.B., Schwarz JM. The effects of early-life immune activation on microglia-mediated neuronal remodeling and the associated ontogeny of hippocampal-dependent learning in juvenile rats. *Brain Behav Immun* 2021; 96: 239-55.

<https://doi.org/10.1016/j.bbi.2021.06.004>

Multi Conditioning System (FCS)

Plank A.C., Frey S., Basedow L.A., Solati J., Canneva F., von Hörsten S., Kratz O., Moll G.H., Golub Y. Prenatally traumatized mice reveal hippocampal methylation and expression changes of the stress-related genes *Crhr1* and *Fkbp5*. *Transl Psychiatry* 2021; 11: 183.

<https://doi.org/10.1038/s41398-021-01293-y>

Multi Conditioning System (FCS)

Shirenova S.D., Khlebnikova N.N., Krupina NA. Long-Term Social Isolation Reduces Expression of the BDNF Precursor and Prolyl Endopeptidase in the Rat Brain. *Biochemistry (Mosc)* 2021; 86(6): 704-15.

<https://doi.org/10.1134/S0006297921060080>

Multi Conditioning System (2Comp: Passive Avoidance)

Silva B.A., Astori S., Burns A.M., Heiser H., van den Heuvel L., Santoni G., Martinez-Reza M.F., Sandi C., Gräff J. A thalamo-amygdalar circuit underlying the extinction of remote fear memories. *Nat Neurosci* 2021; 24: 964-74.

<https://doi.org/10.1038/s41593-021-00856-y>

Multi Conditioning System (FCS)

Sturman O., von Ziegler L., Privitera M., Waag R., Duss S., Vermeiren Y., Giovagnoli L., de Deyn P., Bohacek J. Chronic adolescent stress increases exploratory behavior but does not appear to change the acute stress response in adult male C57BL/6 mice. *Neurobiol Stress* 2021; 15: 100388.

<https://doi.org/10.1016/j.ynstr.2021.100388>

Multi Conditioning System (FCS: Shock Anxiety Test, ActiMot: Open Field)

Tsao C.F., Chang Y.H., Shen F.C., Su Y.J., Lin H.Y., Chang C.S., Lin C.Y., Lian W.S., Chuang J.H., Lin T.K., Liou C.W., Wang P.W., Weng SW. Legacy Effect of Antioxidant N-acetylcysteine in Cellular Senescence of Diet-induced Obesity Mice. *Curr Mol Med* 2021; 21(6): 506-25.

<https://doi.org/10.2174/1566524020999201113101738>

Multi Conditioning System (ActiMot: Open Field)

Wang F., Jiang W., Gao L., Liu C., Deng M., Ren X., Zhu C., Guan J.S., Wang Y. Detecting Abnormal Neuronal Activity in a Chronic Migraine Model. *Front Neurosci* 2021; 15: 705938.

<https://doi.org/10.3389/fnins.2021.705938>

Multi Conditioning System (2Comp: Light-Dark)

Xu D., Qiao T., Wang Y., Wang Q.S., Cui YL. Alginate nanogels-based thermosensitive hydrogel to improve antidepressant-like effects of albiflorin via intranasal delivery. *Drug Deliv* 2021; 28(1): 2137-49.

<https://doi.org/10.1080/10717544.2021.198660>

Multi Conditioning System (ActiMot: Open Field)

2020

Ayash S., Schmitt U., Lyons D.M., Müller MB. Stress inoculation in mice induces global resilience. *Transl Psychiatry* 2020; 10(1): 200.

<https://doi.org/10.1038/s41398-020-00889-0>

Multi Conditioning System (FCS)

Berdugo-Vega G., Arias-Gil G., López-Fernández A., Artegiani B., Wasielewska J.M., Lee C.C., Lippert M.T., Kempermann G., Takagaki K., Calegari F. Increasing neurogenesis refines hippocampal activity rejuvenating navigational learning strategies and contextual memory throughout life. *Nat Commun* 2020; 11(1): 135.

<https://doi.org/10.1038/s41467-019-14026-z>

Multi Conditioning System (FCS)

Borowicz-Reutt K.K., Banach M., Rudkowska M. Nebivolol attenuates the anticonvulsant action of carbamazepine and phenobarbital against the maximal electroshock-induced seizures in mice. *Pharmacol Rep* 2020; 72(1): 80-6.

<https://doi.org/10.1007/s43440-019-00029-6>

Multi Conditioning System (2Comp: Passive Avoidance)

Hessel M., Pape H.C., Seidenbecher T. Stimulation of 5-HT receptors in anterodorsal BNST guides fear to predictable and unpredictable threat. *Eur Neuropsychopharmacol* 2020; 39: 56-69.

<https://doi.org/10.1016/j.euroneuro.2020.08.006>

Multi Conditioning System (FCS)

Jing M., Li Y., Zeng J., Huang P., Skirzewski M., Kljakic O., Peng W., Qian T., Tan K., Zou J., Trinh S., Wu R., Zhang S., Pan S., Hires S.A., Xu M., Li H., Saksida L.M., Prado V.F., Bussey T.J., Prado MAM, Chen L., Cheng H., Li Y. An optimized acetylcholine sensor for monitoring in vivo cholinergic activity. *Nat Methods* 2020; 17(11): 1139-46.

<https://doi.org/10.1038/s41592-020-0953-2>

Multi Conditioning System (2Comp: Foot Shock)

Krupina N.A., Shirenova S.D., Khlebnikova NN. Prolonged Social Isolation, Started Early in Life, Impairs Cognitive Abilities in Rats Depending on Sex. *Brain Sci* 2020; 10(11): 799.

<https://doi.org/10.3390/brainsci10110799>

Multi Conditioning System (2Comp: Passive Avoidance)

Segebarth D., Griebel M., Stein N., von Collenberg C.R., Martin C., Fiedler D., Comeras L.B., Sah A., Schoeffler V., Lüffe T., Dürr A., Gupta R., Sasi M., Lillesaar C., Lange M.D., Tasan R.O., Singewald N., Pape H.C., Flath C.M., Blum R. On the objectivity, reliability, and validity of deep learning enabled bioimage analyses. *eLife* 2020; Oct 19: 9:e59780.

<https://doi.org/10.7554/eLife.59780>

Multi Conditioning System (FCS)

Sturman O., von Ziegler L., Schläppi C., Akyol F., Privitera M., Slominski D., Grimm C., Thieren L., Zerbi V., Grewe B., Bohacek J. Deep learning-based behavioral analysis reaches human accuracy and is capable of outperforming commercial solutions. *Neuropsychopharmacology* 2020; 45(11): 1942-52.

<https://doi.org/10.1038/s41386-020-0776-y>

Multi Conditioning System (ActiMot: Open Field)

Trautmann C., Burek D., Hübner C.A., Girault J.A., Engmann O. A regulatory pathway linking caffeine action, mood and the diurnal clock. *Neuropharmacology* 2020; 172: 108133.

<https://doi.org/10.1016/j.neuropharm.2020.108133>

Multi Conditioning System (ActiMot: Open Field)

Xu D., Lu Y.R., Kou N., Hu M.J., Wang Q.S., Cui YL. Intranasal delivery of icariin via a nanogel-thermoresponsive hydrogel compound system to improve its antidepressant-like activity. *Int J Pharm* 2020; 586: 119550.

<https://doi.org/10.1016/j.ijpharm.2020.119550>

Multi Conditioning System (ActiMot: Open Field)

2019

Campos-Pires R., Hirnet T., Valeo F., Ong B.E., Radyushkin K., Aldhoun J., Saville J., Edge C.J., Franks N.P., Thal S.C., Dickinson R. Xenon improves long-term cognitive function, reduces neuronal loss and chronic neuroinflammation, and improves survival after traumatic brain injury in mice. *Br J Anaesth* 2019; 123(1): 60-73.

<https://doi.org/10.1016/j.bja.2019.02.032>

Multi Conditioning System (FCS)

Cathomas F., Azzinnari D., Bergamini G., Sigrist H., Buerge M., Hoop V., Wicki B., Goetze L., Soares S., Kukulova D., Seifritz E., Goebbels S., Nave K.A., Ghandour M.S., Seoighe C., Hildebrandt T., Leparç G., Klein H., Stupka E., Hengerer B., Pryce CR. Oligodendrocyte gene expression is reduced by and influences effects of chronic social stress in mice. *Genes Brain Behav* 2019; 18(1): e12475.

<https://doi.org/10.1111/gbb.12475>

Multi Conditioning System (2Comp: Motor Activity, FCS Basic)

Ferretti V., Maltese F., Contarini G., Nigro M., Bonavia A., Huang H., Gigliucci V., Morelli G., Scheggia D., Managò F., Castellani G., Lefevre A., Cancedda L., Chini B., Grinevich V., Papaleo F. Oxytocin Signaling in the Central Amygdala Modulates Emotion Discrimination in Mice. *Curr Biol* 2019; 29(12): 1938-53.e6.

<https://doi.org/10.1016/j.cub.2019.04.070>

Multi Conditioning System (MCS Housing)

Khalaf O., Gräff J. Reactivation of Recall-Induced Neurons in the Infralimbic Cortex and the Basolateral Amygdala After Remote Fear Memory Attenuation. *Front Mol Neurosci* 2019; 12: 70.

<https://doi.org/10.3389/fnmol.2019.00070>

Multi Conditioning System (FCS)

Kornhuber J., Zoicas I. Neuropeptide Y reduces expression of social fear via simultaneous activation of Y1 and Y2 receptors. *J Psychopharmacol* 2019; 33(12): 1533-9.

<https://doi.org/10.1177/0269881119862529>

Multi Conditioning System (FCS: Social Fear)

Li KD , Yan K . , Wang QS , Tian JS , Xu D . , Zhang WY , Cui YL. Antidepressant-like effects of dietary gardenia blue pigment derived from genipin and tyrosine. *Food Funct* 2019; 8: 4533-45.

<https://doi.org/10.1039/c9fo00480g>

Multi Conditioning System (ActiMot: Open Field)

Lin H.Y., Wang F.S., Yang Y.L., Huang YH. MicroRNA-29a Suppresses CD36 to Ameliorate High Fat Diet-Induced Steatohepatitis and Liver Fibrosis in Mice. *Cells* 2019; 8(10): 1298.

<https://doi.org/10.3390/cells8101298>

Multi Conditioning System (ActiMot: Open Field)

Paixão S., Loschek L., Gaitanos L., Alcalà Morales P., Goulding M., Klein R. Identification of Spinal Neurons Contributing to the Dorsal Column Projection Mediating Fine Touch and Corrective Motor Movements. *Neuron* 2019; 104(4): 749-64.

<https://doi.org/10.1016/j.neuron.2019.08.029>

Multi Conditioning System (2Comp: Place Aversion)

Richetto J., Polesel M., Weber-Stadlbauer U. Effects of light and dark phase testing on the investigation of behavioural paradigms in mice: Relevance for behavioural neuroscience. *Pharmacol Biochem Behav* 2019; 178: 19-29.

<https://doi.org/10.1016/j.pbb.2018.05.011>

Multi Conditioning System (2Comp: Light-Dark)

Silva B.A., Burns A.M., Gräff J. A cFos activation map of remote fear memory attenuation.

Psychopharmacology 2019; 236(1): 369-81.

<https://doi.org/10.1007/s00213-018-5000-y>

Multi Conditioning System (FCS)

Von Collenberg C.R., Schmitt D., Rüllicke T., Sendtner S., Blum R., Buchner E. An essential role of the mouse synapse associated protein Syap1 in circuits for spontaneous motor activity and rotarod balance. *Biology Open* 2019; 8(6): bio042366.

<https://doi.org/10.1242/bio.042366>

Multi Conditioning System (FCS), VideoMot (Elevated Plus Maze, Open Field, Light-Dark, Object Recognition)

Wang G., Xie H., Wang L., Luo W., Wang Y., Jiang J., Xiao C., Xing F., Guan JS. Switching From Fear to No Fear by Different Neural Ensembles in Mouse Retrosplenial Cortex. *Cereb Cortex* 2019; 29(12): 5085-97.

<https://doi.org/10.1093/cercor/bhz050>

Multi Conditioning System (FCS)

Xi Y., Liu M., Xu S., Hong H., Chen M., Tian L., Xie J., Deng P., Zhou C., Zhang L., He M., Chen C., Lu Y., Reiter R.J., Yu Z., Pi H., Zhou Z. Inhibition of SERPINA3N-dependent neuroinflammation is essential for melatonin to ameliorate trimethyltin chloride-induced neurotoxicity. *J Pineal Res* 2019; 67(3): e12596.

<https://doi.org/10.1111/jpi.12596>

Multi Conditioning System (2Comp: Passive Avoidance)

Zarb Y., Weber-Stadlbauer U., Kirschenbaum D., Kindler D.R., Richetto J., Keller D., Rademakers R., Dickson D.W., Pasch A., Byzova T., Nahar K., Voigt F.F., Helmchen F., Boss A., Aguzzi A., Klohs J., Keller A. Ossified blood vessels in primary familial brain calcification elicit a neurotoxic astrocyte response. *Brain* 2019; 142(4): 885-902.

<https://doi.org/10.1093/brain/awz032>

Multi Conditioning System (2Comp: Light-Dark)

Zerbi V., Floriou-Servou A., Markicevic M., Vermeiren Y., Sturman O., Privitera M., von Ziegler L., Ferrari K.D., Weber B., De Deyn P.P., Wenderoth N., Bohacek J. Rapid Reconfiguration of the Functional Connectome after Chemogenetic Locus Coeruleus Activation. *Neuron* 2019; 103(4): 702-18.
<https://doi.org/10.1016/j.neuron.2019.05.034>

Multi Conditioning System (ActiMot: Open Field, Light-Dark)

Zheng Q., Liu P., Gao G., Yuan J., Wang P., Huang J., Xie L., Lu X., Di F., Tong T., Chen J., Lu Z., Guan J., Wang G. Mitochondrion-processed TERC regulates senescence without affecting telomerase activities. *Protein Cell* 2019; 10(9): 631-48.

<https://doi.org/10.1007/s13238-019-0612-5>

Multi Conditioning System (FCS)

2018

Andreev Y.A., Osmakov D.I., Koshelev S.G., Maleeva E.E., Logashina Y.A., Palikov V.A., Palikova Y.A., Dyachenko I.A., Kozlov SA. Analgesic activity of acid-sensing ion channel-3 (ASIC3) inhibitors: sea anemones peptides Ugr9-1 and APET x-2 versus low molecular weight compounds. *Marine Drugs* 2018; 16(12): 500.

<https://doi.org/10.3390/md16120500>

Multi Conditioning System (ActiMot: Open Field)

Bergamini G., Mechtersheimer J., Azzinnari D., Sigrist H., Buerge M., Dallmann R., Freije R., Kouraki A., Opacka-Juffry J., Seifritz E., Ferger B., Suter T., Pryce CR. Chronic social stress induces peripheral and central immune activation, blunted mesolimbic dopamine function, and reduced reward-directed behaviour in mice. *Neurobiol Stress* 2018; 8: 42-56.

<https://doi.org/10.1016/j.ynstr.2018.01.004>

Multi Conditioning System (2Comp: Motor Activity)

Fürth D., Vaissière T., Tzortzi O., Xuan Y., Martin A., Lazaridis I., Spigolon G., Fisone G., Tomer R., Deisseroth K., Carlén M., Miller C.A., Rumbaugh G., Meletis K.. An interactive framework for whole-brain maps at cellular resolution. *Nat Neurosci* 2018; 21(1): 139-49.

<https://doi.org/10.1038/s41593-017-0027-7>

Multi Conditioning System (ActiMot: Open Field)

Jiang J., Wang G.Y., Luo W., Xie H., Guan JS. Mammillary body regulates state-dependent fear by alternating cortical oscillation. *Sci Rep* 2018; 8(1): 13471.

<https://doi.org/10.1038/s41598-018-31622-z>

Multi Conditioning System (FCS)

Just S., Chenard B.L., Ceci A., Strassmaier T., Chong J.A., Blair N.T., Gallaschun R.J., Del Camino D., Cantin S., D'Amours M., Eickmeier C., Fanger C.M., Hecker C., Hessler D.P., Hengerer B., Kroker K.S., Malekiani S., Mihalek R., McLaughlin J., Rast G., Witek J., Sauer A., Pryce C.R., Moran MM . Treatment with HC-070, a potent inhibitor of TRPC4 and TRPC5, leads to anxiolytic and antidepressant effects in mice. *PLOS ONE* 2018; 13(1): e0191225.

<https://doi.org/10.1371/journal.pone.0191225>

Multi Conditioning System (2Comp: FCS Basic)

Khalaf O., Resch S., Dixsaut L., Gorden V., Glauser L., Gräff J. Reactivation of recall-induced neurons contributes to remote fear memory attenuation. *Science* 2018; 360(6394): 1239-42.

<https://doi.org/10.1126/science.aas9875>

Multi Conditioning System (FCS)

Palikov V.A., Terekhov S.S., Palikova Y.A., Khokhlova O.N., Kazakov V.A., Dyachenko I.A., Panteleev S.V., Mokrushina Y.A., Knorre V.D., Shamborant O.G., Smirnov I.V., Gabibov AG. Mouse Model for Assessing the Subchronic Toxicity of Organophosphate Pesticides. *Acta Naturae* 2018; 10(4): 125-8.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6351027/>

Multi Conditioning System (ActiMot: Open Field)

Palikova Y.A., Skobtsova L.A., Zharmukhamedova T.Y., Palikov V.A., Rudenko V.B., Khokhlova N., Lobanov A.V., Rzhetskii D.I., Slashcheva G.A., D'yachenko, Belous G.I., Andreev Y.A., Logashina Y.A., Kozlov S.A., Yavorskii A.N., Elyakova E.G., D'yachenko IA. Influence of New Promising Analgesic Compounds on Locomotor Activity of Mice. *Pharmaceut Chem J* 2018; 52(8): 700-3.

<https://doi.org/10.1007/s11094-018-1884-4>

Multi Conditioning System (ActiMot: Open Field)

Paul A.K., Gueven N., Dietis N. Age-dependent antinociception and behavioral inhibition by morphine. *Pharmacol Biochem Behav* 2018; 168: 8-16.

<https://doi.org/10.1016/j.pbb.2018.03.003>

Multi Conditioning System (ActiMot: Open Field)

Paul A.K., Gueven N., Dietis N. Data on prolonged morphine-induced antinociception and behavioral inhibition in older rats. *Data in Brief* 2018; 19: 183-8.

<https://doi.org/10.1016/j.dib.2018.05.001>

Multi Conditioning System (ActiMot: Open Field)

Schaefer N., Zheng F., van Brederode J., Berger A., Leacock S., Hirata H., Paige C.J., Harvey R.J., Alzheimer C., Villmann C. . Functional consequences of the postnatal switch from neonatal to mutant adult glycine receptor $\alpha 1$ subunits in the shaky mouse model of startle disease. *Front Mol Neurosci* 2018; 11: 167.

<https://doi.org/10.3389/fnmol.2018.00167>

Multi Conditioning System (FCS: Video Recording)

Shen F.C., Weng S.W., Tsao C.F., Lin H.Y., Chang C.S., Lin C.Y., Lian W.S., Chuang J.H., Lin T.K., Liou C.W., Wang P. Early intervention of N-acetylcysteine better improves insulin resistance in diet-induced obesity mice. *Free Radic Res* 2018; 4: 1-11.

<https://doi.org/10.1080/10715762.2018.1447670>

Multi Conditioning System (ActiMot: Open Field)

Sturman O., Germain P.L., Bohacek J. Exploratory rearing: a context- and stress-sensitive behavior recorded in the open-field test. *Stress* 2018; 21(5): 1-10.

<https://doi.org/10.1080/10253890.2018.1438405>

Multi Conditioning System (ActiMot: Open Field)

2017

Cathomas F., Sigrist H., Schmid L., Seifritz E., Gassmann M., Bettler B., Pryce CR. Behavioural endophenotypes in mice lacking the auxiliary GABAB receptor subunit KCTD16. *Behav Brain Res* 2017; 317: 393-400.

<https://doi.org/10.1016/j.bbr.2016.10.006>

Multi Conditioning System (2Comp: FCS Basic), VideoMot (Open Field)

Cerina M., Narayanan V., Göbel K., Bittner S., Ruck T., Meuth P., Herrmann A.M., Stangel M., Gudi V., Skripuletz T., Daldrup T., Wiendl H., Seidenbecher T., Ehling P., Kleinschnitz C., Pape H.C., Budde T., Meuth SG. The quality of cortical network function recovery depends on localization and degree of axonal demyelination. *Brain Behav Immun* 2017; 59: 103-17.

<https://doi.org/10.1016/j.bbi.2016.08.014>

Multi Conditioning System (FCS)

Ding X., Liu S., Tian M., Zhang W., Zhu T., Li D., Wu J., Deng H.T., Jia Y., Xie W., Xie H., Guan JS. Activity-induced histone modifications govern Neurexin-1 mRNA splicing and memory preservation. *Nat Neurosci* 2017; 20(5): 690-9.

<https://doi.org/10.1038/nn.4536>

Multi Conditioning System (FCS)

Douglass A.M., Kucukdereli H., Ponserra M., Markovic M., Gründemann J., Strobel C., Alcalá Morales P.L., Conzelmann K.K., Lüthi A., Klein R. Central amygdala circuits modulate food consumption through a positive-valence mechanism. *Nat Neurosci* 2017; 20(10): 1384-94.

<https://doi.org/10.1038/nn.4623>

Multi Conditioning System (MCS Housing)

Hatalova H., Radostova D., Pistikova A., Vales K., Stuchlick A. Detrimental effect of clomipramine on hippocampus-dependent learning in an animal model of obsessive-compulsive disorder induced by sensitization with d2/d3. *Behav Brain Res* 2017; 317: 210-7.

<https://doi.org/10.1016/j.bbr.2016.09.042>

Multi Conditioning System (2Comp: Active Avoidance)

Kim J.Y., Yang S.H., Kwon J., Lee H.W., Kim H. Mice subjected to uncontrollable electric shocks show depression-like behaviors irrespective of their state of helplessness. *Behav Brain Res* 2017; 322: 138-44.

<https://doi.org/10.1016/j.bbr.2017.01.008>

Multi Conditioning System (2Comp: Learned Helplessness)

Logashina Y.A., Mosharova I.V., Korolkova Y.V., Shelukhina I.V., Dyachenko I.A., Palikov V.A., Palikova Y.A., Murashev A.N., Kozlov S.A., Stensvåg K., Andreev YA. Peptide from Sea Anemone *Metridium senile* Affects Transient Receptor Potential Ankyrin-repeat 1 (TRPA1) Function and Produces Analgesic Effect. *J Biol Chem* 2017; 292(7): 2992-3004.

<https://doi.org/10.1074/jbc.M116.757369>

Multi Conditioning System (ActiMot: Open Field)

Logashina Y.A., Solstad R.G., Mineev K.S., Korolkova Y.V., Mosharova I.V., Dyachenko I.A., Palikov V.A., Palikova Y.A., Murashev A.N., Arseniev A.S., Kozlov S.A., Stensvåg K., Haug T., Andreev YA. New Disulfide-Stabilized Fold Provides Sea Anemone Peptide to Exhibit Both Antimicrobial and TRPA1 Potentiating Properties. *Toxins* 2017; 9(5): 154.

<https://doi.org/10.3390/toxins9050154>

Multi Conditioning System (ActiMot: Open Field)

Lüningschrör P., Binotti B., Dombert B., Heimann P., Perez-Lara A., Slotta C., Thau-Habermann N., R. von Collenberg C., Karl F., Damme M., Horowitz A., Maystadt I., Füchtbauer A., Füchtbauer E.M., Jablonka S., Blum R., Üçeyler N., Petri S., Kaltschmidt B., Jahn R., Kaltschmidt C., Sendtner M. Plekhg5-regulated autophagy of synaptic vesicles reveals a pathogenic mechanism in motoneuron disease. *Nature Commun* 2017; 8(1): 678.

<https://doi.org/10.1038/s41467-017-00689-z>

Multi Conditioning System (FCS), VideoMot (Open Field)

Osborne B.F., Caulfield J.I., Solomotis S.A., Schwarz JM. Neonatal Infection Produces Significant Changes in Immune Function with No Associated Learning Deficits in Juvenile Rats. *Dev Neurobiol* 2017; 77(10): 1221-36.

<https://doi.org/10.1002/dneu.22512>

Multi Conditioning System (FCS)

Tsai Cabal A., Ioanas H.I., Seifritz E., Saab E. Selective amotivation deficits following chronic psychosocial stress in mice. *Behav Brain Res* 2017; 317: 424-33.

<https://doi.org/10.1016/j.bbr.2016.09.055>

Multi Conditioning System (2Comp: Motor Activity)

van Buel E.M., Sigrist H., Seifritz E., Fikse L., Bosker F.J., Schoevers R.A., Klein H.C., Pryce C.R., Eisel UL. Mouse repeated electroconvulsive seizure (ECS) does not reverse social stress effects but does induce behavioral and hippocampal changes relevant to electroconvulsive therapy (ECT) side-effects in the treatment of depression. *PLOS ONE* 2017; 12(9): e0184603.

<https://doi.org/10.1371/journal.pone.0184603>

Multi Conditioning System (2Comp: Activity, FCS Basic)

2016

Bergamini G., Sigrist H., Ferger B., Singewald N., Seifritz E., Pryce CR. Depletion of nucleus accumbens dopamine leads to impaired reward and aversion processing in mice: Relevance to motivation pathologies. *Neuropharmacology* 2016; 109: 306-19.

<https://doi.org/10.1016/j.neuropharm.2016.03.048>

Multi Conditioning System (2Comp: Learned Helplessness, FCS Basic)

Fuertig R., Azzinnari D., Bergamini G., Cathomas F., Sigrist H., Seifritz E., Vavassori S., Luippold A., Hengerer B., Ceci A., Pryce CR. Mouse chronic social stress increases blood and brain kynurenine pathway activity and fear behaviour: Both effects are reversed by inhibition of indoleamine 2,3-dioxygenase. *Brain Behav Immun* 2016; 54: 59-72.

<https://doi.org/10.1016/j.bbi.2015.12.020>

Multi Conditioning System (2Comp: FCS Basic)

Golub Y., Canneva F., Funke R., Frey S., Distler J., von Hörsten S., Freitag C.M., Kratz O., Moll G.H., Solati J. Effects of In Utero Environment and Maternal Behavior on Neuroendocrine and Behavioral Alterations in a Mouse Model of Prenatal Trauma. *Dev Neurobiol* 2016; 76(11): 1254-65.

<https://doi.org/10.1002/dneu.22387>

Multi Conditioning System (FCS)

Holubova K., Kleteckova L., Skurlova M., Ricny J., Stuchlik A., Vales K. Rapamycin blocks the antidepressant effect of ketamine in task-dependent manner. *Psychopharmacology* 2016; 233(11): 2077-97.

<https://doi.org/10.1007/s00213-016-4256-3>

Multi Conditioning System (2Comp: Passive Avoidance, ActiMot: Open Field)

Klaus F., Paterna J.C., Marzorati E., Sigrist H., Götze L., Schwendener S., Bergamini G., Jehli E., Azzinnari D., Fuertig R., Fontana A., Seifritz E., Pryce CR. Differential effects of peripheral and brain tumor necrosis factor on inflammation, sickness, emotional behavior and memory in mice. *Brain Behav Immun* 2016; 58: 310-26.

<https://doi.org/10.1016/j.bbi.2016.08.001>

Multi Conditioning System (2Comp: FCS Basic, Active Avoidance)

Vevera J., Valeš K., Fišar Z., Hroudová J., Singh N., Stuchlík A., Kačer P., Nekovářová T. The effect of prolonged simvastatin application on serotonin uptake, membrane microviscosity and behavioral changes in the animal model. *Physiol Behav* 2016; 158: 112-20.

<https://doi.org/10.1016/j.physbeh.2016.02.029>

Multi Conditioning System (ActiMot: Open Field)

Vyklický V., Smejkalová T., Krausová B., Balík A., Korinek M., Borovská J., Horák M., Chvojková M., Kletecká L., Vales K., Černý J., Nekardová M., Chodounská H., Kudová E., Vyklický L. Preferential inhibition of tonically over phasically activated NMDA receptors by Pregnane derivatives. *J Neurosci* 2016; 36(7): 2161-75.

<https://doi.org/10.1523/JNEUROSCI.3181-15.2016>

Multi Conditioning System (2Comp: Passive Avoidance, ActiMot: Open Field)

2015

Canneva F., Golub Y., Distler J., Dobner J., Meyer S., von Hörsten S. DPP4-deficient congenic rats display blunted stress, improved fear extinction and increased central NPY. *Psychoneuroendocrinology* 2015; 53: 195-206.

<https://doi.org/10.1016/j.psyneuen.2015.01.007>

Multi Conditioning System (FCS)

Cathomas F., Fuertig R., Sigrist H., Newman G.N., Hoop V., Bizzozzero M., Mueller A., Luippold A., Ceci A., Hengerer B., Seifritz E., Fontana A., Pryce CR. CD40-TNF activation in mice induces extended sickness behavior syndrome co-incident with but not dependent on activation of the kynurenine pathway. *Brain Behav Immun* 2015; 50: 125-40.

<https://doi.org/10.1016/j.bbi.2015.06.184>

IntelliCage, Multi Conditioning System (2Comp: FCS Basic), VideoMot

Cathomas F., Stegen M., Sigrist H., Schmid L., Seifritz E., Gassmann M., Bettler B., Pryce CR. Altered emotionality and neuronal excitability in mice lacking KCTD12, an auxiliary subunit of GABAB receptors associated with mood disorders. *Transl Psychiatry* 2015; 5: e510.

<https://doi.org/10.1038/tp.2015.8>

Multi Conditioning System (2Comp: FCS Basic), IntelliCage, VideoMot

Habbas S., Santello M., Becker D., Stubbe H., Zappia G., Liaudet N., Klaus F.R., Kollias G., Fontana A., Pryce C.R., Suter T., Volterra A. Neuroinflammatory TNF α Impairs Memory via Astrocyte Signaling. *Cell* 2015; 163(7): 1730-41.

<https://doi.org/10.1016/j.cell.2015.11.023>

Multi Conditioning System (FCS)

Philips M.A., Lilleväli K., Heinla I., Luuk H., Hundahl C.A., Kongi K., Vanaveski T., Tekko T., Innos J., Vasar E. Lsamp is implicated in the regulation of emotional and social behavior by use of alternative promoters in the brain. *Brain Struct Funct* 2015; 220(3): 1381-93.

<https://doi.org/10.1007/s00429-014-0732-x>

Multi Conditioning System (FCS)

Rei D., Mason X., Seo J., Gräff J., Rudenko A., Wang J., Rueda R., Siebert S., Cho S., Canter R.G., Mungenast A.E., Deisseroth K., Tsai LH. Basolateral amygdala bidirectionally modulates stress-induced hippocampal learning and memory deficits through a p25/Cdk5-dependent pathway. *PNAS* 2015; 112(23): 7291-6.

<https://doi.org/10.1073/pnas.1415845112>

Multi Conditioning System (FCS: RFS)

2014

Azzinnari D., Sigrist H., Staehli S., Palme R., Hildebrandt T., Leparc G., Hengerer B., Seifritz E., Pryce CR. Mouse social stress induces increased fear conditioning, helplessness and fatigue to physical challenge together with markers of altered immune and dopamine function. *Neuropharmacology* 2014; 85: 328-41. <https://doi.org/10.1016/j.neuropharm.2014.05.039>

Multi Conditioning System (2Comp: Motor Activity, FCS Basic, Active Avoidance)

Bero A.W., Meng J., Cho S., Shen A.H., Canter R.G., Ericsson M., Tsai LH. Early remodeling of the neocortex upon episodic memory encoding. *PNAS* 2014; 111(32): 11852-7. <https://doi.org/10.1073/pnas.1408378111>

Multi Conditioning System (FCS)

Gräff J., Joseph N.F., Horn M.E., Samiei A., Meng J., Seo J., Rei D., Bero A.W., Phan T.X., Wagner F., Holson E., Xu J., Sun J., Neve R.L., Mach R.H., Haggarty S.J., Tsai LH. Epigenetic priming of memory updating during reconsolidation to attenuate remote fear memories. *Cell* 2014; 156(1-2): 261-76.

<https://doi.org/10.1016/j.cell.2013.12.020>

Multi Conditioning System (FCS)

Tucci V., Kleefstra T., Hardy A., Heise I., Maggi S., Willemsen M.H., Hilton H., Esapa C., Simon M., Buenavista M.T., McGuffin L.J., Vizer L., Doderio L., Tsaftaris S., Romero R., Nillesen W.N., Vissers L.E., Kempers M.J., Vulto-van Silfhout A.T., Iqbal Z., Orlando M., Maccione A., Lassi G., Farisello P., Contestabile A., Tinarelli F., Nieus T., Raimondi A., Greco B., Cantatore D., Gasparini L., Berdondini L., Bifone A., Gozzi A., Wells S., Nolan PM. Dominant Beta-catenin mutations cause intellectual disability with recognizable syndromic features. *J Clin Invest* 2014; 124(4): 1468-82.

<https://doi.org/10.1172/JCI70372>

Multi Conditioning System (FCS), Operant Wall

Örd T., Innos J., Lilleväli K., Tekko T., Sütt S., Örd D., Köks S., Vasar E. Trib3 is developmentally and nutritionally regulated in the brain but is dispensable for spatial memory, fear conditioning and sensing of amino acid-imbalanced diet. *PLOS ONE* 2014; 9(4): e94691.

<https://doi.org/10.1371/journal.pone.0094691>

VideoMot (Water Maze), Multi Conditioning System (FCS)

2013

Contestabile A., Greco B., Ghezzi D., Tucci V., Benfenati F., Gasparini L. Lithium rescues synaptic plasticity and memory in Down syndrome mice. *J Clin Invest* 2013; 123(1): 348-61.

<https://doi.org/10.1172/JCI64650>

Multi Conditioning System (FCS)

Fass D.M., Reis S.A., Ghosh B., Hennig K.M., Joseph N.F., Zhao W.N., Nieland T.J., Guan J.S., Kuhnle C.E., Tang W., Barker D.D., Mazitschek R., Schreiber S.L., Tsai L.H., Haggarty SJ. Crebinostat: A novel cognitive enhancer that inhibits histone deacetylase activity and modulates chromatin-mediated neuroplasticity. *Neuropharmacology* 2013; 64: 81-96.

<https://doi.org/10.1016/j.neuropharm.2012.06.043>

Multi Conditioning System (FCS)

Spinelli S., Müller T., Friedel M., Sigrist H., Lesch K.P., Henkelman M., Rudin M., Seifritz E., Pryce CR. Effects of repeated adolescent stress and serotonin transporter gene partial knockout in mice on behaviors and brain structures relevant to major depression. *Front Behav Neurosci* 2013; 7: 215.
<https://doi.org/10.3389/fnbeh.2013.00215>

VideoMot (Elevated Plus Maze, Open Field), Multi Conditioning System (2Comp: Stress Exposure)

2012

Gräff J., Rei D., Guan J.S., Wang W.Y., Seo J., Hennig K.M., Nieland T.J., Fass D.M., Kao P.F., Kahn M., Su S.C., Samiei A., Joseph N., Haggarty S.J., Delalle I., Tsai LH. An epigenetic blockade of cognitive functions in the neurodegenerating brain. *Nature* 2012; 483(7388): 222-6.

<https://doi.org/10.1038/nature10849>

Multi Conditioning System (FCS)

Lassi G., Ball S.T., Maggi S., Colonna G., Nieuwenhuis T., Cero C., Bartolomucci A., Peters J., Tucci V. Loss of Gnas Imprinting Differentially Affects REM/NREM Sleep and Cognition in Mice. *PLOS Genet* 2012; 8(5): e1002706.

<https://doi.org/10.1371/journal.pgen.1002706>

Multi Conditioning System (FCS), PhenoMaster

Pryce C.R., Azzinnari D., Sigrist H., Geschwind T., Lesch K.P., Seifritz E. Establishing a learned-helplessness effect paradigm in C57BL/6 mice: Behavioural evidence for emotional, motivational and cognitive effects of aversive uncontrollability per se. *Neuropharmacology* 2012; 62(1): 358-72.

<https://doi.org/10.1016/j.neuropharm.2011.08.012>

Multi Conditioning System (2Comp: Learned Helplessness)