

Annex 1: List of most important publications of the NCCR Neuro

Project 1

Lee H.-Y., Kléber M., Hari L., Brault V., Suter U., Taketo M.M., Kemler R. and Sommer L. (2004). Instructive role of Wnt/beta-catenin in sensory fate specification in neural crest stem cells. *Science*, 303(5660):1020-3.

Nyfeler Y., Kirch R.D., Mantei N., Leone D.P., Radtke F., Suter U. and Taylor V. (2005). Jagged1 signals in the postnatal subventricular zone are required for neural stem cell self-renewal. *EMBO J*, 24(19):3504-15. Epub 2005 Sep 15.

Karalay O., Doberauer K., Vadodaria K.C., Knobloch M., Berti L., Miquelajauregui A., Schwark M., Jagasia R., Taketo M.M., Tarabykin V., Lie D.C. and Jessberger S. (2011). Prospero-related homeobox 1 gene (*Prox1*) is regulated by canonical Wnt signaling and has a stage-specific role in adult hippocampal neurogenesis. *PNAS*, 108(14):5807-12.

Project 2

Hock C., Konietzko U., Papassotiropoulos A., Wollmer A., Streffer J., von Rotz R.C., Davey G., Moritz E. and Nitsch R.M. (2002). Generation of antibodies specific for beta-amyloid by vaccination of patients with Alzheimer disease. *Nat Med*, 8(11):1270-5.

Hock C., Konietzko U., Streffer J.R., Tracy J., Signorell A., Muller-Tillmanns B., Lemke U., Henke K., Moritz E., Garcia E., Wollmer M.A., Umbricht D., de Quervain D.J., Hofmann M., Maddalena A., Papassotiropoulos A. and Nitsch R.M. (2003). Antibodies against beta-Amyloid slow cognitive decline in Alzheimer's disease. *Neuron*, 38(4):547-54.

Biscaro B., Lindvall O., Hock C., Ekdahl C.T. and Nitsch R.M. (2009). Abeta immunotherapy protects morphology and survival of adult-born neurons in doubly transgenic APP/PS1 mice. *J Neurosci*, 29(45):14108-19.

Former Project 3

Spudich A., Kilic E., Xing H., Wunderli-Allenspach H., Bassetti C.L. and Hermann D.M. (2006). Inhibition of multidrug resistance transporter (Mdr)-1 facilitates neuroprotective therapies after focal cerebral ischemia. *Nature Neurosci*, 9:487-488.

Gee C.E., Benquet P., Raineteau O., Rietschin L., Kirbach S.W. and Gerber U. (2006). NMDA receptors and the differential ischemic vulnerability of hippocampal neurons. *Eur J Neurosci*, 23:2595-2603.

Hédou G.F., Koshibu K., Farinelli M., Kilic E., Gee C.E., Kilic U., Baumgärtel K., Hermann D.M. and Mansuy I.M. (2008). Protein phosphatase 1-dependent bidirectional synaptic plasticity controls ischemic recovery in the adult brain. *J Neurosci*. 2008 Jan 2;28(1):154-62.

Project 3

Hosp J.A., Pekanovic A., Rioult-Pedotti M.S. and Luft A.R. (2011). Dopaminergic projections from midbrain to primary motor cortex mediate motor skill learning. *J Neurosci*, 31:2481-2487.

Molina-Luna K., Pekanovic A., Rohrich S., Hertler B., Schubring-Giese M., Rioult-Pedotti M.S. and Luft A.R. (2009). Dopamine in motor cortex is necessary for skill learning and synaptic plasticity. *PLoS One* 2009;4:e7082.

Former Project 4

Stieger S.C., Kullack-Ublick G.A., Fried M., Mueller S., Fritschy J.M., Wieser H.G. and Pauli-Magnus C. (2007). Intestinal expression of cytochrome P450 enzymes and ABC transporters and carbamazepine and phenytoin disposition. *ActaNeurolScand*, 115:232-242.

Huber A., Padrun V., Deglon N., Aebischer P., Mohler H. and Boison D. (2001). Grafts of adenosine-releasing cells suppress seizures in kindling epilepsy. *ProcNatlAcadSci USA*, 98:7611-7616.

Boison D. and Stewart K.-A. (2009). Therapeutic epilepsy research: from pharmacological rationale to focal adenosine augmentation. *BiochemPharmacol*, 78:1428-1437.

Project 4

Eisele G., Roth P., Hasenbach K., Aulwurm S., Wolpert F., Tabatabai G., Wick W. and Weller M. (2011). APO010, a synthetic hexameric CD95 ligand, induces human glioma cell death in vitro and in vivo. *Neuro-Oncology*, 13:155-164.

Schraivogel D., Weinmann L., Beier D., Tabatabai G., Eichner A., Zhu J.Y., Anton M., Sixt M., Weller M., Beier C.P. and Meister G. (2011). CAMTA1 is a novel tumour suppressor regulated by miR-9/9* in glioblastoma stem cells. *EMBO J*, 30:4309-4322.

Project 5

Townsend B.R., Subasi E. and Scherberger H. (2011). Grasp movement decoding from premotor and parietal cortex. *J Neurosci*, 31:14386-14398.

Brodersen K.H., Schofield T.M., Leff A.P., Ong C.S., Lomakina E.I., Buhmann J.M. and Stephan K.E. (2011). Generative embedding for model-based classification of fMRI data. *PLoS Computational Biology*, 7: e1002079, 2011.

Project 6

Heikenwalder M., Zeller N., Seeger H., Prinz M., Klohn P.C., Schwarz P., Ruddle N.H., Weissmann C. and Aguzzi A. (2005). Chronic lymphocytic inflammation specifies the organ tropism of prions. *Science*, 307:1107-1110.

Greter M., Heppner F.L., Lemos M.P., Odermatt B.M., Goebels N., Laufer T., Noelle R.J. and Becher B. (2005). Dendritic cells permit immune invasion of the CNS in an animal model of multiple sclerosis. *Nat Med*, 11(3):328-34. Epub Feb 27.

Codarri L., Gyölvéshi G., Tosevski V., Hesske L., Fontana A., Magnenat L., Suter T. and Becher B. (2011). RORyt drives production of the cytokine GM-CSF in helper T cells, which is essential for the effector phase of autoimmune neuroinflammation. *Nat Immunol*, 12:560-7.

Project 7

Curt A. and Dietz V. (2005). Controversial treatments for spinal-cord injuries. *Lancet*, 365:841.

Freund P., Schmidlin E., Wannier T., Bloch J., Mir A., Schwab M.E. and Rouiller E.M. (2006). Nogo-A-specific antibody treatment enhances sprouting and functional recovery after cervical lesion in adult primates. *Nat Med*, 12:790-2.

Schwab M.E. (2010). Functions of Nogo proteins and their receptors in the nervous system. *Nat Rev Neurosci*, 11:799-811.

Project 8

Dominici N., Keller U., Vallery H., Friedli L., van den Brand L., Starkley M.L., Musienko P., Riener R. and Courtine G. (2012). Novel robotic interface to evaluate, enable, and train locomotion and balance after neuromotor disorders. *Nature Medicine*, in press.

Siekierka-Kleiser E.M., Eng K., Bassetti C., Blickenstorfer A., Cameirao M.S., Dietz V., Duff A., Erol F., Ettlin T., Hermann D.M., Keller T., Keisker B., Kesselring J., Kleiser R., Kollias S., Kool J.P., Kurre A., Mangold S., Nef T., Pyk P., Riener R., Schuster C., Tosi F., Verschure P.F.M.J. and Zimmerli L. (2007). New technologies and concepts for rehabilitation in the acute phase of stroke: a collaboration matrix. *Neurodegenerative Diseases*, 4:57-69.

Center 1

Leone D.P., Génoud S., Atanasoski S., Grausenburger R., Berger P., Metzger D., Macklin W.B., Chambon P. and Suter U. (2003). Tamoxifen-inducible glia-specific Cre mice for somatic mutagenesis in oligodendrocytes and Schwann cells. *Mol Cell Neurosci*, 22(4):430-40.

Johansson T., Broll I., Frenz T., Hemmers S., Becher B., Zeilhofer H.U. and Buch T. (2010). Building a zoo of mice for genetic analyses: a comprehensive protocol for the rapid generation of BAC transgenic mice. *Genesis*, 48:264-80.

Center 2

Wolfer D.P., Litvin O., Morf S., Nitsch R.M., Lipp H.-P. and Würbel H. (2004). Cage enrichment and mouse behaviour. *Nature*, 432:821-822.

Vyssotski A.L., Dell'Omo G., Dell'Aricea G., Abramchuk A.N., Serkov A.N., Latanov A.V., Loizzo A., Wolfer D.P. and Lipp H.-P. (2009). EEG in flying pigeons responds to familiar visual landmarks. *Current Biology*, 19:1-8.

Center 3

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Center4

Ghosh A., Haiss F., Sydekum E., Peduzzi S., Schneider R., Baltés C., Rudin M., Weber B. and Schwab M.E. (2010). Rewiring of hindlimbcorticospinal neurons after spinal cord injury. *Nat Neurosci*, 13:97-104.

Grewe B., Langer D., Kasper H., Kampa B. and Helmchen F. (2010). High-speed in vivo calcium imaging reveals neuronal network activity with near-millisecond precision. *Nature Methods*, 7(5):399-405.

Göbel W., Kampa B.M. and Helmchen F. (2007). Imaging cellular network dynamics in three dimensions using fast 3D laser scanning. *Nature Methods*, 4:73-79.