

15th of January 2020

Original papers: 40 (26 as a senior group leader, either from my group or as a collaboration)

Reviews: 7

Patent: 1

Original papers [40]

Laan L, Klar J, Sobol M, Hoeber J, Shahsavani M, Kele M, Fatima A, Zakaria M, Annerén G, **Falk A**, Schuster J, Dahl N.

DNA methylation changes in Down syndrome derived neural iPSCs uncover co-dysregulation of ZNF and HOX3 families of transcription factors.

Clin Epigenetics. 2020 Jan 8;12(1):9

Čančer M, Hutter S, Holmberg KO, Rosén G, Sundström A, Taylor J, Bergström T, Garancher A, Essand M, Wechsler-Reya RJ, **Falk A**, Weishaupt H, Swartling FJ.

Humanized Stem Cell Models of Pediatric Medulloblastoma Reveal an Oct4/mTOR Axis that Promotes Malignancy.

Cell Stem Cell. 2019 Dec 5;25(6):855-870.e11

Lam M, Sanosaka T, Lundin A, Imaizumi K, Etal D, Karlsson FH, Clausen M, Cairns J, Hicks R, Kohyama J, Kele M, Okano H, **Falk A**.

Single cell study of neural stem cells derived from human iPSCs reveal distinct progenitor populations with neurogenic and gliogenic potential.

Genes Cells. 2019 Dec;24(12):836-847

Kvarnung M, Shahsavani M, Taylan F, Moslem M, Breeuwsma N, Laan L, Schuster J, Jin Z, Nilsson D, Lieden A, Anderlid BM, Nordenskjöld M, Syk Lundberg E, Birnir B, Dahl N, Nordgren A, Lindstrand A, **Falk A**

Ataxia in patients with bi-allelic *NFASC* mutations and absence of full-length NF186

Front Genet. 2019 Sep 24;10:896.

Lam M, Moslem M, Bryois J, Pronk RJ, Uhlin E, Ellström ID, Laan L, Olive J, Morse R, Rönnholm H, Louhivuori L, Korol SV, Dahl N, Uhlén P, Anderlid BM, Kele M, Sullivan PF, **Falk A**.

Single cell analysis of autism patient with bi-allelic NRXN1-alpha deletion reveals skewed fate choice in neural progenitors and impaired neuronal functionality

Exp Cell Res. 2019 Jul 12:111469

Raciti M, Salma J, Spulber S, Gaudenzi G, Khalajzeyqami Z, Conti M, Anderlid BM, **Falk A**, Hermanson O, Ceccatelli S.

NRXN1 Deletion and Exposure to Methylmercury Increase Astrocyte Differentiation by Different Notch-Dependent Transcriptional Mechanisms

Front Genet. 2019 Jun 21;10:593

Sobol M, Klar J, Laan L, Shahsavani M, Schuster J, Annerén G, Konzer A, Mi J, Bergquist J, Nordlund J, Hoeber J, Huss M, **Falk A**, Dahl N.

Transcriptome and Proteome Profiling of Neural Induced Pluripotent Stem Cells from Individuals with Down Syndrome Disclose Dynamic Dysregulations of Key Pathways and Cellular Functions.

Mol Neurobiol. 2019 Apr 13

Maffezzini C, Laine I, Dallabona C, Clemente P, Calvo-Garrido J, Wibom R, Naess K, Barbaro M, **Falk A**, Donnini C, Freyer C, Wredenberg A, Wedell A.

Mutations in the mitochondrial tryptophanyl-tRNA synthetase cause growth retardation and progressive leukoencephalopathy.

Mol Genet Genomic Med. 2019 Mar 28:e654

Calvo-Garrido J, Maffezzini C, Schober FA, Clemente P, Uhlin E, Kele M, Stranneheim H, Lesko N, Bruhn H, Svenningsson P, **Falk A**, Wedell A, Freyer C, Wredenberg A.

SQSTM1/p62-Directed Metabolic Reprogramming Is Essential for Normal Neurodifferentiation.

Stem Cell Reports. 2019 Feb 11

Rebellato P, Kaczynska D, Kanatani S, Rayyes IA, Zhang S, Villaescusa C, **Falk A**, Arenas E, Hermanson O, Louhivuori L, Uhlén P.

The T-type Ca²⁺ Channel Ca_v3.2 Regulates Differentiation of Neural Progenitor Cells during Cortical Development via Caspase-3.

Neuroscience. 2019 Jan 21

Marin Navarro A, Day K, Kogner P, Wilhelm M, **Falk A**.

Generation of induced pluripotent stem cell lines from two Neuroblastoma patients carrying a germline ALK R1275Q mutation.

Stem Cell Res. 2018 Dec 18;34:101356

Delsing L, Dönnés P, Sánchez S, Clausen M, **Falk A**, Herland A, Brolén G, Zetterberg H, Hicks R, Synnergren J.

Barrier properties and transcriptome expression in human iPSC-derived models of the blood-brain barrier.

Stem Cells. 2018 Dec;36(12):1816-1827

Lundin A, Delsing L, Clausen M, Ricchiuto P, Sanchez J, Sabirsh A, Mei D, Synnergren J, Zetterberg H, Brolén G, Hicks R, Herland A, **Falk A**.

Human iPSC-derived astroglia from a stable neural precursor state; improved functionality compared to conventional astrocytic models

Stem Cell Reports. 2018 Mar 13;10(3):1030-1045

Wezyk M, Szybinska A, Wojsiat J, Szczerba M, Day K, Ronnholm H, Kele H, Berdyski M, Peplowska B, Fichna JP, Ilkowski J, Styczynska M, Barczak A, Zboch M, Filipek-Gliszczyńska A, Bojakowski K, Skrzypczak M, Ginalski K, Kabza M, Makalowska I, Barcikowska-Kotowicz M, Wojda U, **Falk A** and Zekanowski C.

Overactive BRCA1 affects presenilin 1 in iPSC-derived neurons in Alzheimer's disease.

J. Alzheimers Dis. 2018;62(1):175-202

Yu NY, Bieder A, Raman A, Mileti E, Katayama S, Einarsdottir E, Fredholm BB, **Falk A**, Tapiá-Páez I, Daub CO, Kere J.

Acute doses of caffeine shift nervous system cell expression profiles toward promotion of neuronal projection growth.

Sci Rep. 2017 Sep 13;7(1):11458.

Shahsavani M, Pronk RJ, Falk R, Lam M, Moslem M, Linker SB, Salma J, Day K, Schuster J, Anderlid BM, Dahl N, Gage FH, **Falk A**.

An in vitro Model of Lissencephaly: Expanding the Role of DCX During Neurogenesis.

Mol Psychiatry. 2017 Jul;23(7):1674-1684.

Uhlin E, Marin Navarro A, Rönnholm H, Day K, Kele M, **Falk A**.

Integration Free Derivation of Human Induced Pluripotent Stem Cells Using Laminin 521 Matrix.

J Vis Exp. 2017 Jul 7;(125)

Brattås PL, Jönsson ME, Fasching L, Nelander Wahlestedt J, Shahsavani M, Falk R, **Falk A**, Jern P, Parmar M, Jakobsson J.

TRIM28 Controls a Gene Regulatory Network Based on Endogenous Retroviruses in Human Neural Progenitor Cells.

Cell Rep. 2017 Jan 3;18(1):1-11

Uhlin, E., Rönnholm, H., Day, K., Kele, M., Tammimies, K., Bölte, S., **Falk, A**.

Derivation of human iPS cell lines from monozygotic twins in defined and xeno free conditions.

Stem Cell Res. 2017 Jan;18:22-25

Kele M, Day K, Rönnholm H, Schuster J, Dahl N, **Falk A**.

Generation of human iPS cell line CTL07-II from human fibroblasts, under defined and xeno-free conditions.

Stem Cell Res. 2016 Sep 30;17(3):474-478

Villaescusa JC, Li B, Toledo EM, Rivetti di Val Cervo P, Yang S, Stott SR, Kaiser K, Islam S, Gyllborg D, Laguna-Goya R, Landreh M, Lönnerberg P, **Falk A**, Bergman T, Barker RA, Linnarsson S, Selleri L, Arenas E.

A PBX1 transcriptional network controls dopaminergic neuron development and is impaired in Parkinson's disease.

EMBO J. 2016 Sep 15;35(18):1963-78.

Ali RQ, Blomberg E, **Falk A**, Ährlund-Richter L, Ulfendahl M.

Induction of sensory neurons from neuroepithelial stem cells by the ISX9 small molecule

Am J Stem Cells. 2016 May 15;5(1):19-28.

Raciti M, Ong J, Weis L, Edoff K, Battagli C, **Falk A**, Ceccatelli S

Glucocorticoids alter neuronal differentiation of human neuroepithelial-like cells by inducing long-lasting changes in the ROS balance

Neuropharmacology. 2016 Aug;107:422-31

Wu S, Johansson J, Damdimopoulou P, Shahsavani M, **Falk A**, Hovatta O, Rising A

Spider silk for xeno-free long-term self-renewal and differentiation of human pluripotent stem cells.

Biomaterials. 2014 Oct;35(30):8496-502

Bölte S, Willfors C, Berggren S, Norberg J, Poltrago L, Mevel K, Coco C, Fransson P, Borg J, Sitnikov R, Toro R, Tammimies K, Anderlid BM, Nordgren A, **Falk A**, Meyer U, Kere J, Landén M, Dalman C, Ronald A, Anckarsäter H, Lichtenstein P.

The Roots of Autism and ADHD Twin Study in Sweden (RATSS).

Twin Res Hum Genet. 2014 Apr 15:1-13.

Zhang D, Pekkanen-Mattila M, Shahsavani M, **Falk A**, Teixeira AI, Herland A.
A 3D Alzheimer's disease culture model and the induction of P21-activated kinase mediated sensing in iPSC derived neurons.
Biomaterials. 2014 Feb;35(5):1420-8.

Taylor J, Kittappa R, Leto K, Gates M, Borel M, Paulsen O, Spitzer S, Karadottir RT, Rossi F, **Falk A***, Smith A*.
Stem cells expanded from the human embryonic hindbrain stably retain regional specification and high neurogenic potency.
J Neurosci. 2013 Jul 24;33(30):12407-22.
***Co-corresponding authors**

McLaren, D., Gorba, T., Marguerie de Rotrou, A., Pillai, G., Chappell, C., Stacey, A., Lingard, S., **Falk, A.**, Smith, A., Koch, P., Brüstle, O., Vickers, R., Tinsley, J., Flanders, D., Bello, P., Craig, S.
Automated large-scale culture and medium-throughput chemical screen for modulators of proliferation and viability of human induced pluripotent stem cell-derived neuroepithelial-like stem cells.
J Biomol Screen. 2013 Mar;18(3):258-68

Falk R, **Falk A**, Dyson MR, Melidoni A, Parthiban K, Young J, Roake W, McCafferty J.
Generation of anti-Notch antibodies and their application in blocking Notch signalling in neural stem cells.
Methods. 2012 Sep;58(1):69-78.

Fujimoto Y, Abematsu M, **Falk A**, Tsujimura K, Sanosaka T, Juliandi B, Semi K, Namihira M, Komiya S, Smith A, Nakashima K.
Treatment of a mouse model of spinal cord injury by transplantation of human iPS cell-derived long-term self-renewing neuroepithelial-like stem cells.
Stem Cells. 2012 Jun;30(6):1163-73.

Falk A, Koch P, Kesavan J, Takashima Y, Ladewig J, Alexander M, Wiskow O, Taylor J, Trotter M, Pollard S, Smith A, Brüstle O.
Capture of Neuroepithelial-Like Stem Cells from Pluripotent Stem Cells Provides a Versatile System for In Vitro Production of Human Neurons.
PLoS One. 2012;7(1):e29597

Hook L, Vives J, Fulton N, Leveridge M, Lingard S, Bootman MD, **Falk A**, Pollard SM, Allsopp TE, Dalma-Weiszhausz D, Tsukamoto A, Uchida N, Gorba T.
Non-immortalized human neural stem (NS) cells as a scalable platform for cellular assays.
Neurochem Int. 2011 Sep;59(3):432-44.

Danovi D, **Falk A**, Humphreys P, Vickers R, Tinsley J, Smith AG, Pollard SM.
Imaging-based chemical screens using normal and glioma-derived neural stem cells.
Biochem Soc Trans. 2010 Aug;38(4):1067-71

Sun Y, Kong W, **Falk A**, Hu J, Pollard S, Smith A.
CD133 (prominin) negative human neural stem cells are clonogenic and tripotent.
PLoS One. 2009;4(5):e5498.

Sun Y, Pollard S, Conti L, Toselli M, Biella G, Parkin G, Willatt L, **Falk A**, Cattaneo E, Smith A. Long-term tripotent differentiation capacity of human neural stem (NS) cells in adherent culture. **Mol Cell Neurosci.** 2008 Jun;38(2):245-58.

Falk A, Karlsson TE, Kurdija S, Frisén J, Zupicich J. High-throughput identification of genes promoting neuron formation and lineage choice in mouse embryonic stem cell. **Stem Cells.** 2007 Jun;25(6):1539-45.

Dahlqvist C, Blokzijl A, Chapman G, **Falk A**, Dannaeus K, Ibanez CF, Lendahl U. Functional Notch signaling is required for BMP4-induced inhibition of myogenic differentiation. **Development.** 2003 Dec;130(24):6089-99.

Blokzijl A, Dahlqvist C, Reissmann E, **Falk A**, Moliner A, Lendahl U, Ibanez CF. Cross-talk between the Notch and TGF-beta signaling pathways mediated by interaction of the Notch intracellular domain with Smad3. **J Cell Biol.** 2003 Nov 24;163(4):723-8.

Falk A, Holmstrom N, Carlen M, Cassidy R, Lundberg C, Frisen J. Gene delivery to adult neural stem cells. **Exp Cell Res.** 2002 Sep 10;279(1):34-9.

Falk A, Frisen J. Amphiregulin is a mitogen for adult neural stem cells. **J Neurosci Res.** 2002 Sep 15;69(6):757-62.

Reviews [7]

Kieroń M, Żekanowski C, **Falk A**, Wężyk M. Oxidative DNA Damage Signalling in Neural Stem Cells in Alzheimer's Disease. **Oxid Med Cell Longev.** 2019 Nov 13;2019:2149812

Moslem M, Olive J, **Falk A**. Stem cell models of schizophrenia, what have we learned and what is the potential? **Schizophr Res.** 2018 Dec 23 [Epub ahead of print]

Lundin A, **Falk A**. Quick Access to Human Astrocytic Software that Drives Neuronal Hardware **Stem Cell Reports.** 2018 Oct 9;11(4):847-849

Marin Navarro A, Susanto E, **Falk A**, Wilhelm M. Modeling cancer using patient derived-induced pluripotent stem cells to understand development of childhood malignancies **Cell Death Discov.** 2018 Feb 1;4:7

Kele M, **Falk A**. Progress towards Clinical Use of iPS Cell Derived Therapies. **Int J Stem Cell Res Ther** 2016. 3:041. 10.23937/2469-570X/1410041

Falk A, Heine VM, Harwood AJ, Sullivan PF, Peitz M, Brüstle O, Shen S, Sun YM, Glover JC, Posthuma D, Djurovic S.
Modeling psychiatric disorders: from genomic findings to cellular phenotypes.
Mol Psychiatry. 2016 Sep;21(9):1321

Falk A and Frisen J.
New neurons in old brains.
Ann Med. 2005;37(7):480-6.

Patent [1]

WO/2003/039575 - USE OF REELIN, GAS6, AND PROTEIN S IN THE TREATMENT OF NEURAL DISORDERS

Inventors:

BERTILSSON, Goran; (SE), FRISEN, Jonas; (SE), **FALK, Anna**; (SE), HEIDRICH, Jessica(SE), HELLSTROM, Kristina; (SE), KORTESMAA, Jarkko; (SE), LINDQUIST, Per; (SE), LUNDH, Hanna; (SE), MCGUIRE, Jaccqueline; (SE), MERCER, Alex; (SE), PATRONE, Cesare; (SE), RONNHOLM, Harriet; (SE), WIKSTROM, Lilian; (SE), ZACHRISSON, Olof; (SE).