15 NOTABLE PUBLICATIONS

Mart Saarma

(as of August 6th, 2016)

1. Pirvola, U., Palgi, J., Ylikoski, J., Lehtonen, E. Arumäe, U. & Saarma, M. (1992) Brain-derived neurotrophic factor and neurotrophin 3 in the peripheral target fields of developing inner ear ganglia. **Proc. Natl. Acad. Sci**., USA, *89,* 9915-9919.

2. Trupp, M., Arenas, E., Fainzilber, M., Nilsson, A.-S., Sieber, B.-A., Grigoriou, M., Kilkenny, C., Salaxar-Grueso, E., Pachnis, V., Arumäe, U., Sariola, H., Saarma, M. & Ibañéz, C.F. (1996) Functional receptor for GDNF encoded by the c-*ret* proto-oncogene. **Nature**, *381*, 785-789.

3. Rivera, C., Voipio, J., Payne, J.A., Ruusuvuori, E., Lahtinen, H., Lamsa, K., Pirvola, U., Saarma, M. & Kaila, K. (1999) A K+/Cl- co-transporter KCC2 renders GABA hyperpolarizing during neuronal maturation. **Nature 397,** 251-255.

4. Rossi, J., Luukko, K., Poteriaev, D., Laurikainen, A., Sun, Y.F., Laakso, T., Eerikäinen, S., Tuominen, R., Lakso, M., Rauvala, H., Arumäe, U., Pasternack, M., Saarma, M. & Airaksinen, M.S. (1999) Retarded growth and deficits in the enteric and parasympathetic nervous system in mice lacking GFRa2, a functional neurturin receptor. **Neuron** **22**, 243-252.

5. Meng, X., Lindahl, M., Hyvönen, M. E., Parvinen, M., de Rooij, D. G., Hess, M. W., Raatikainen-Ahokas, A., Sainio, K., Rauvala, H., Lakso, M., Pichel, J. G. , Westphal, H., Saarma, M. & Sariola, H. (2000) Regulation of cell fate decision of undifferentiated spermatogonia by GDNF. **Science**, 287, 1489-1493.

6. Airaksinen, M. S. & Saarma, M. (2002) GDNF family neurotrophic factors: receptor mechanisms, biological functions and therapeutic utility. **Nature Rev. Neurosci**., 3, 383-394.

7. Rivera, C., Hong Li, Thomas-Crusells, J., Lahtinen, H., Viitanen, T., Nanobashvili, A., Kokaia, Z., Airaksinen, M. S., Voipio, J., Kaila, K. & Saarma, M. (2002). BDNF-induced TrkB activation down-regulates the K+–Cl- cotransporter KCC2 and impairs neuronal Cl- extrusion**. J. Cell Biol.,** 159: 747-752.

8. Lindholm, P., Voutilainen, M .H., Laurén, J., Peränen, J., Leppänen, V-M., Andressoo,J-O., Lindahl, M., Janhunen, S., Kalkkinen, N., Timmusk, T., Tuominen, RK. and Saarma, M. (2007) Novel neurotrophic factor CDNF protects and rescues midbrain dopaminergic neurons *in vivo*. **Nature**, 448, 73-77.

9. Mijatovic J, Airavaara M, Planken A, Auvinen P, Raasmaja A, Piepponen TP, Costantini F, Ahtee L, Saarma M (2007) Constitutive Ret activity in knock-in multiple endocrine neoplasia type B mice induces profound elevation of brain dopamine concentration via enhanced synthesis and increases the number of TH-positive cells in the substantia nigra. **J Neurosci** 27: 4799-4809.

10. Lonka-Nevalaita L, Lume M, Leppänen S, Jokitalo E, Peränen J and Saarma M. (2010) Characterization of the intracellular localization, processing and secretion of two GDNF splice isoforms. **J. Neurosci.** , 30(34):11403-11413.

11. Bespalov MM, Sidorova Y A, Tumova S, Ahonen-Bishopp A, Magalhães AC, Kulesskiy E, Paveliev M, Rivera C, Rauvala H,and Saarma M. . (2011) Heparan sulfate proteoglycan syndecan-3 is a novel receptor for GDNF, neurturin and artemin **J. Cell Biol.,** 192(1), 153-169.

12. Hellman M, Arumäe U, Yu LY, Lindholm P, Peränen J, Saarma M\*, Permi P\* (2011) Mesencephalic Astrocyte-derived Neurotrophic Factor (MANF) Has a Unique Mechanism to Rescue Apoptotic Neurons. J Biol Chem 286: 2675-2680. \* Equal contribution.

13. Lindahl M, Danilova T, Palm E, Pulkkila P, Voikar V, Hakonen E, Ustinov J, Andressoo J-O, Harvery B, Otonkoski T, Rossi J and Saarma M. (2014). MANF is indispensable for the proliferation and survival of pancreatic β-cells. **Cell Reports**, 7(2):366-75. doi: 10.1016/j.celrep.2014.03.023. Epub 2014 Apr 13

14. Kopra J, Vilenius C, Grealish S, Härma A-M, Varendi K, Lindholm J, Castrén E, Võikar V, Björklund A, Piepponen TP, Saarma M\*, Andressoo J-O\* (2015) GDNF is not required for catecholaminergic neuron survival in vivo. **Nature Neurosci**. 18(3):319-22. doi: 10.1038/nn.3941. \*Equal contribution.

15. Kumar A, Kopra J, Varendi K, Porokuokka LL, Panhelainen A, Kuure S, Marshall P, Karalija N, Härma MA, Vilenius C, Lilleväli K, Tekko T, Mijatovic J, Pulkkinen N, Jakobson M, Jakobson M, Ola R, Palm E, Lindahl M, Strömberg I, Võikar V, Piepponen TP, Saarma M\*, Andressoo JO\*.(2015) [GDNF Overexpression from the Native Locus Reveals its Role in the Nigrostriatal Dopaminergic System Function.](http://www.ncbi.nlm.nih.gov/pubmed/26681446) ***PLoS Genet***. Dec 17;11(12):e1005710. doi: 10.1371/journal.pgen.1005710. \*Equal contribution.