

Publications from the CoE in 2014:



CENTRE OF EXCELLENCE
IN CELL-EXTRACELLULAR
MATRIX RESEARCH

Peer-reviewed journals:

1. Pihlajaniemi

Rygh CB, Løkka G, Heljasvaara R, Taxt T, Pavlin T, Sormunen R, Pihlajaniemi T, Curry FR, Tenstad O, Reed RK. Image-based assessment of microvascular function and structure in collagen XV- and XVIII-deficient mice. *J Physiol.* 592(Pt 2):325-36. 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24218547>

Aikio M, Elamaa H, Vicente D, Izzi V, Seppinen L, Speedy HE, Kuusisto S, Sormunen R, Heljasvaara R, Jones EL, Muilu M, Jauhiainen M, Savolainen MJ, Shoulders CC, and Pihlajaniemi T. Specific collagen XVIII isoforms promote adipogenesis and affect fat deposition. *Proc Natl Acad Sci U S A.* 111(30):E3043-52, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/25024173>

Zaferani A, Talsma DT, Yazdani S, Celie J, Aikio M, Heljasvaara R, Navis GJ, Pihlajaniemi T, van den Born J. Basement membrane zone collagens XV and XVIII/proteoglycans mediate leukocyte influx in renal ischemia/reperfusion. *PLoS One* 9 (9), e106732, 2014. <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0106732>

Heikkinen A, Pihlajaniemi T, Faissner A, Yuzaki, M. Neural ECM and synaptogenesis. *Prog Brain Res.* 214, 29-51, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/25410352>

Kantola, T, Väyrynen, JP, Klintrup, K, Mäkelä, J, Karppinen, SM, Pihlajaniemi, T, Autio-Harmainen, H, Karttunen, TJ, Mäkinen, MJ, Tuomisto, A. Serum endostatin levels are elevated in colorectal cancer and correlate with invasion and systemic inflammatory markers. *British journal of cancer* 111 (8), 1605-1613, 2014. <http://www.nature.com/bjc/journal/v111/n8/full/bjc2014456a.html>

Buler M, Aatsinki SM, Izzi V, Uusimaa J, Hakkola J. SIRT5 is under the control of PGC-1 alpha and AMPK and is involved in regulation of mitochondrial energy metabolism. *FASEB J* 28 (7), 3225-3237, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24687991>

Izzi V, Buler M, Masuelli L, Giganti MG, Modesti A, Bei R. Poxvirus-Based Vaccines for Cancer Immunotherapy: New Insights from Combined Cytokines/Co-Stimulatory Molecules Delivery and "Uncommon" Strains. *Anticancer Agents Med Chem.* 14 (2), 183-189, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24237219>

Zainul Z. Positive regulatory genes in peripheral axon regeneration and functional recovery following injury. *Am J Neuroprot Neuroregen.* 6 (1), 4-9, 2014. [Link to the article](#)

Zainul Z. Terminal Schwann Cells Lead Synapse Remodelling following Injury. - *eNeuro* e2014, 1, 2014. <http://eneuro.org/content/1/1/ENEURO.0028-14.2014>

2. Myllyharju

Kaasinen E, Rahikkala E, Koivunen P, Miettinen S, Wamelink MMC, Aavikko M, Palin K, Myllyharju, J, Moilanen JS, Pajunen L, Karhu A, Aaltonen LA. Clinical characterization, genetic mapping and whole-genome sequence analysis of a novel autosomal recessive intellectual disability syndrome. *Euro J Medical Genetics* 57 (10), 543-551, 2014. <http://dx.doi.org/10.1016/j.ejmg.2014.07.002>

Myllyharju J. Extracellular matrix and developing growth plate. *Current osteoporosis reports* 12, 439-

445, 2014. <http://link.springer.com/article/10.1007%2Fs11914-014-0232-1>

Rahtu-Korpela L, Karsikas S, Hörkkö S, Sequeiros RB, Lammentausta E, Mäkelä KA, Herzig KH, Walkinshaw G, Kivirikko KI, Myllyharju J, Serpi R, Koivunen P. HIF prolyl 4-hydroxylase-2 inhibition improves glucose and lipid metabolism and protects against obesity and metabolic dysfunction. *Diabetes*, May 1, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24789921>

Szabo Z, Magga J, Alakoski T, Ulvila J, Piuholta J, Vainio L, Kivirikko KI, Vuolteenaho O, Ruskoaho H, Lipson KE, Signore P, Kerkelä R. Connective tissue growth factor inhibition attenuates left ventricular remodeling and dysfunction in pressure overload-induced heart failure. *Hypertension* 63 (6), 1235-1240, 2014. <http://hyper.ahajournals.org/content/63/6/1235.full.pdf+html>

3. Vainio

Halt K, Vainio S. Coordination of kidney organogenesis by Wnt signaling. *Pediatr Nephrol*. Apr,29(4):737-44, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24445433>

Prunskaitė-Hyryläinen R, Shan J, Railo A, Heinonen KM, Miinalainen I, Yan W, Shen B, Perreault C, Vainio SJ. Wnt4, a pleiotropic signal for controlling cell polarity, basement membrane integrity, and antimüllerian hormone expression during oocyte maturation in the female follicle. *FASEB J*. Apr,28(4):1568-81, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24371124>

Naillat F, Veikkolainen V, Miinalainen I, Sipilä P, Poutanen M, Elenius K, Vainio SJ. ErbB4, a receptor tyrosine kinase, coordinates organization of the seminiferous tubules in the developing testis. *Mol Endocrinol*. 2014 Jul 24;me20131244, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/25058600>

Rymer C, Paredes J, Halt K, Schaefer C, Wiersch J, Zhang G, Potoka D, Vainio S, Gittes GK, Bates CM, Sims-Lucas S. Renal blood flow and oxygenation drive nephron progenitor differentiation. *Am J Physiol Renal Physiol*. 2014 Aug 1;307(3):F337-45. <http://www.ncbi.nlm.nih.gov/pubmed/24920757>

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Pietilä I, Vainio SJ. Kidney development: an overview. *Nephron Exp Nephrol*. 126(2):40, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24854638>

Mohl M, Dombovari A, Tuchina ES, Petrov PO, Bibikova OA, Skovorodkin I, Popov AP, Rautio AR, Sarkar A, Mikkola JP, Huuhtanen M, Vainio S, Keiski RL, Prilepsky A, Kukovec A, Konya Z, Tuchin VV, Kordas K. Titania nanofibers in gypsum composites: an antibacterial and cytotoxicology study. *J. Mater. Chem. B* 2 (10), 1307-1316, 2014. <http://pubs.rsc.org/en/Content/ArticleLanding/2014/TB/c3tb21644f#!divAbstract>

4. Winqvist

Agarwal D, Pineda S, Michailidou K, Herranz J, Pita G, Moreno LT, Alonso MR, Dennis J, Wang Q, Bolla M. K, Meyer KB, Menendez-Rodriguez P, Hardisson D, Mendiola M, Gonzalez-Neira A, Lindblom A, Margolin S, Swerdlow A, Ashworth A, Orr N, Jones M, Matsuo K, Ito H, Iwata H, Kondo N, Hartman M, Hui M, Lim WY, Lau P, T-C, Sawyer E., Toml. FGF receptor genes and breast cancer susceptibility: results from the Breast Cancer Association Consortium. *Br J Cancer*. 110 (4), 1088-1100, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24548884>

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Kiuru A, Kämäräinen M, Heinävaara S, Pylkäs K, Chapman K, Koivistoinen A, Parviainen T, Winqvist R, Kadhim M, Launonen V, Lindholm C. Assessment of Targeted and Non-Targeted Responses in Cells Deficient in ATM Function following Exposure to Low and High Dose X-Rays. *PLoS One*. Mar28;9(3):e93211, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24681528>

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Perry JRB, Day F, Elks CE, Sulem P, Thompson DJ, Ferreira T, He C, Chasman DI, Esko T, Thorleifsson G, Albrecht E, Ang WQ, Corre T, Cousminer DL, Feenstra B, Franceschini N, Ganna A, Johnson AD, Kjellqvist S, Lunetta KL. Parent-of-origin-specific allelic associations among 106 genomic loci for age at menarche. *Nature* 514 (7520), 92-97, 2014.

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5. Manninen

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6. Eklund

Kivelä R, Bry M, Robciuc MR, Räsänen M, Taavitsainen M, Silvola JM, Saraste A, Hulmi JJ, Anisimov A, Mäyränpää MI, Lindeman JH, Eklund L, Hellberg S, Hlushchuk R, Zhuang ZW, Simons M, Djonov V, Knuuti J, Mervaala E, Alitalo K. VEGF-B-induced vascular growth leads to metabolic reprogramming and ischemia resistance in the heart. *EMBO Mol Med.* Mar,6(3):307-21, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24448490>

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