

# OptiPrep™ Reference List RS01

## Purification of nuclei from tissues and cells

- ◆ This **Reference List** provides a complete list of publications reporting the use of OptiPrep™ for the isolation of nuclei: the references are sorted alphabetically into sections according to **cell type or tissue source**. Within each section references are listed alphabetically according to **first author**.
- ◆ Key words in the article titles are **highlighted in light blue**
- ◆ **Application Sheet S10a** provides a practical review of the current OptiPrep™-based methodologies

### Annelids

**Tweetena, K.A.** and Morris, S.J. (2016) *Flow cytometry analysis of DNA ploidy levels and protein profiles distinguish between populations of Lumbriculus (Annelida: Clitellata)* Invert. Biol., 135, 385–399

### BHK cells

**Iina, P.**, Hyvonen, Z., Saura, M., Sandvig, K., Yliperttula, M. and Ruponen, M. (2012) *Genetic blockage of endocytic pathways reveals differences in the intracellular processing of non-viral gene delivery systems* J. Control. Release, 163, 385–395

### Brain cells (human), healthy and disease tissue (see also “Human tissues”)

- Aiello, G.**, Ballabio, C., Ruggeri, R., Fagnocchi, L., Anderle, M., Morassut, I., Caron, D., Garilli, F., Gianno, F. et al (2019) *Truncated BRPF1 cooperates with smoothed to promote adult Shh medullo-blastoma* Cell Rep., 29, 4036–4052
- Castelijns, B.**, Baak, M.L., Timpanaro, I.S., Wiggers, C.R.M., Vermunt, M.W., Shang, P., Kondova, I., Geeven, G., Bianchi, V. et al (2020) *Hominin-specific regulatory elements selectively emerged in oligodendrocytes and are disrupted in autism patients* Nat. Comm., 11: 301
- Corces, M.R.**, Trevino, A.E., Hamilton, E.G., Greenside, P.G., Sinnott-Armstrong, N.A., Vesuna, S., Satpathy, A.T., Rubin, A.J., Montine, K.S. et al (2017) *An improved ATAC-seq protocol reduces background and enables interrogation of frozen tissues* Nat. Meth., 14, 959-962
- Del-Aguila, J.L.**, Li, Z., Dube, U., Mihindukulasuriya, K.A., Budde, J.P., Fernandez, M.V., Ibanez, L., Bradley, J., Wang, F. et al (2019) *A single-nuclei RNA sequencing study of Mendelian and sporadic AD in the human brain* Alzheimer's Res. Ther., 11: 71
- Erwin, J.A.**, Paquola, A.C.M., Singer, T., Gallina, I., Novotny, M., Quayle, C., Bedrosian, T.A., Alves, F.I.A., Butcher, C.R. et al (2016) *L1-associated genomic regions are deleted in somatic cells of the healthy human brain* Nat. Neurosci, 19, 1583-1591
- Frigero, C.S.**, Fiers, M., Voet, T. and De Strooper, B. (2017) *Identification of low allele frequency mosaic mutations in Alzheimer disease* In Genomic Mosaicism in Neurons and Other Cell Types: Neuromethods, 131, (ed. Frade, J.M. and Gage, F.H.) Springer Science+Business Media, LLC, pp 361-378
- Garcia-Esparcia, P.**, Hernández-Ortega, K., Koneti, A., Gil, L., Delgado-Morales, R., Castaño, E., Carmona, M. and Ferrer, I. (2015) *Altered machinery of protein synthesis is region- and stage-dependent and is associated with  $\alpha$ -synuclein oligomers in Parkinson's disease* Acta Neuropathol. Comm., 3: 76
- Hoffner, G.**, Island, M-L. and Djian, P. (2005) *Purification of neuronal inclusions of patients with Huntington's disease reveals a broad range of N-terminal fragments of expanded huntingtin and insoluble polymers* J. Neurochem., 95, 125-136
- Iuchi, S.**, Hoffner, G., Verbeke, P., Djian, P. and Green, H. (2003) *Oligomeric and polymeric aggregates formed by proteins containing expanded polyglutamine* Proc. Natl. Acad. Sci. USA, 100, 2409-2414
- Jessa, S.**, Blanchet-Cohen, A., Krug, B., Vladiou, M., Coutelier, M., Faury, D., Poreau, B., De Jay, N., Hébert, S., Monlong, J. et al (2019) *Stalled developmental programs at the root of pediatric brain tumors* Nat. Genet., 51, 1702–1713
- Kaesler, G.E.** and Chun, J. (2017) *Flow cytometric and sorting analyses for nuclear DNA content, nucleotide sequencing, and interphase FISH* In Genomic Mosaicism in Neurons and Other Cell Types: Neuromethods, 131, (ed. Frade, J.M. and Gage, F.H.) Springer Science+Business Media, LLC, pp 43-55

- Krishnaswami, S.R.**, Grindberg, R.V., Novotny, M., Venepally, P., Lacar, B., Bhutani, K., Linker, S.B. et al (2016) *Using single nuclei for RNA-seq to capture the transcriptome of postmortem neurons* Nat. Protoc., **11**, 499-524
- Mathys, H.**, Davila-Velderrain, J., Peng, Z., Gao, F., Mohammadi, S., Young, J.Z., Menon, M., He, L., Abdurrob, F. et al (2019) *Single-cell transcriptomic analysis of Alzheimer's disease* Nature, **570**, 332-337
- Nagaraja, S.**, Quezada, M.A., Gillespie, S.M., Arzt, M., Lennon, J.J., Woo, P.J., Hovestadt, V., Kambhampati, M., Filbin, M.G. et al (2019) *Histone variant and cell context determine H3K27M reprogramming of the enhancer landscape and oncogenic state* Mol. Cell, **76**, 965-980
- Nagy, C.**, Maitra, M., Theroux, J-F., Djambazian, H. and Turecki, G. (2018) *Single-cell transcriptome of the depressed and suicidal brain* Biol. Psychiatry, **83**, Abstr 118
- Perez-Rodriguez, D.**, Kalyva, M., Leija-Salazar, M., Lashley, T., Tarabichi, M., Chelban, V., Gentleman, S., Schottlaender, L., Franklin, H. (2019) *Investigation of somatic CNVs in brains of synucleinopathy cases using targeted SNCA analysis and single cell sequencing* Acta Neuropathol. Comm., **7**: 219
- Pinho, R.**, Paiva, I., Gotovac Jerčić, C., Fonseca-Ornelas, L., Gerhardt, E., Fahlbusch, C., Garcia-Esparcia, P., Kerimoglu, C., Pavlou, M.A.S. et al (2019) *Nuclear localization and phosphorylation modulate pathological effects of alpha-synuclein* Hum. Mol. Genet., **28**, 31-50
- Reed, P.J.**, Wang, M., Erwin, J.A., Paquola, A.C.M. and Gage, F.H. (2017) *Single-cell whole genome amplification and sequencing to study neuronal mosaicism and diversity* In Genomic Mosaicism in Neurons and Other Cell Types: Neuromethods, **131**, (ed. Frade, J.M. and Gage, F.H.) Springer Science+Business Media, LLC, pp 253-268
- Renthal, W.**, Boxer, L.D., Hrvatin, S., Li, E., Silberfeld, A., Nagy, M.A., Griffith, E.C., Vierbuchen, T. and Greenberg, M.E. (2018) *Characterization of human mosaic Rett syndrome brain tissue by single-nucleus RNA sequencing* Nat. Neurosci., **21**, 1670-1679
- Sousa, A.M.M.**, Zhu, Y., Raghanti, M.A., Kitchen, R.R., Onorati, M., Tebbenkamp, A.T.N., Stutz, B. (2017) *Molecular and cellular reorganization of neural circuits in the human lineage* Science, **358**, 1027-1032
- Wierman, M.B.**, Burbulis, I.E., Chronister, W.D., Bekiranov, S. and McConnell, M.J. (2017) *Single-cell CNV detection in human neuronal nuclei* In Genomic Mosaicism in Neurons and Other Cell Types: Neuromethods, **131**, (ed. Frade, J.M. and Gage, F.H.) Springer Science+Business Media, LLC, pp 109-131
- Brain tissue/spinal cord/neural cells (rodents), healthy and disease sources**
- Caro, P.**, Gómez, J., Arduini, A., González-Sánchez, M., González-García, M., Borrás, C., Viña, J., Puertas, M.J., Sastre, J. and Barja, G. (2010) *Mitochondrial DNA sequences are present inside nuclear DNA in rat tissues and increase with age* Mitochondrion **10**, 479-486
- Cheadle, L.**, Tzeng, C.P., Kalish, B.T., Harmin, D.A., Rivera, S., Ling, E., Nagy, M.A., Hrvatin, S. et al (2018) *Visual experience-dependent expression of Fn14 is required for retinogeniculate refinement* Neuron **99**, 525-539
- Clemen, C.S.**, Herr, C., Hövelmeyer, N. and Noegel, A.A. (2003) *The lack of annexin A7 affects functions of primary astrocytes* Exp. Cell Res., **291**, 406-414
- Clemens, A.W.**, Wu, D.Y., Moore, R., Christian, D.L., Zhao, G. and Gabel, H.W. (2020) *MeCP2 represses enhancers through chromosome topology-associated DNA methylation* Mol. Cell. **77**, 279-293
- Fernandez-Albert, J.**, Lipinski, M., Lopez-Cascales, M.T., Rowley, M.J., Martin-Gonzalez, A.M., del Blanco, B., Corces, V.G. and Barco, A. (2019) *Immediate and deferred epigenomic signatures of in vivo neuronal activation in mouse hippocampus* Nat. Neurosci., **22**, 1718-1730
- Foran, E.**, Bogush, A., Goffredo, M., Roncaglia, P., Gustincich, S., Pasinelli, P., and Trotti, D. (2011) *Motor neuron impairment mediated by a sumoylated fragment of the glial glutamate transporter EAAT2* Glia, **59**, 1719-1731
- Gao, Z.**, Lee, P., Stafford, J.M., von Schimmelmann, M., Schaefer, A. and Reinberg, D. (2014) *An AUTS2-Polycomb complex activates gene expression in the CNS* Nature, **516**, 349-354
- German, D.C.**, Ng, M.C., Liang, C.L., McMahon, A and Iacopino, A.M. (1997) *Calbindin-D<sub>28k</sub> in nerve cell nuclei* Neuroscience, **81**, 735-743
- Jordi, E.**, Heiman, M., Marion-Poll, L., Guermonprez, P., Cheng, S.K., Nairn, A.C. Greengard, P. and Giraulta, J-A. (2013) *Differential effects of cocaine on histone posttranslational modifications in identified populations of striatal neurons* Proc. Natl. Acad. Sci. USA, **110**, 9511-9516
- Korb, E.**, Herre, M., Zucker-Scharff, I., Gresack, J., Allis, C.D. and Darnell, R.B. (2017) *Excess translation of epigenetic regulators contributes to fragile X syndrome and is alleviated by Brd4 inhibition* Cell, **170**, 1209-1223
- Kraus, K.**, Kleene, R., Henis, M., Braren, I., Kataria, H., Sharaf, A., Loers, G., Schachner, M. and Lutz, D. (2018) *A fragment of adhesion molecule L1 binds to nuclear receptors to regulate synaptic plasticity and motor coordination* Mol. Neurobiol., **55**, 7164-7178

- Kumar, V.**, Jong, Y-J.I. and O'Malley, K.L. (2008) *Activated nuclear metabotropic glutamate receptor mGlu5 couples to nuclear  $G_{q/11}$  proteins to generate inositol 1,4,5-trisphosphate-mediated nuclear  $Ca^{2+}$  release* J. Biol. Chem., **283**, 14072-14083
- Lutz, D.**, Wolters-Eisfeld, G., Joshi, G., Djogo, N., Jakovcevski, I., Schachner, M. and Kleene, R. (2012) *Generation and nuclear translocation of sumoylated transmembrane fragment of cell adhesion molecule LI* J. Biol. Chem., **287**, 17161–17175
- Ma, S.**, Hsieh, Y-P., Ma, J. and Lu, C. (2018) *Low-input and multiplexed microfluidic assay reveals epigenomic variation across cerebellum and pre-frontal cortex* Sci. Adv. **4**: eaar8187
- Ma, S.**, de la Fuente Revenga, M., Sun, Z., Sun, C., I, Murphy, T.W., Xie, H., González-Maeso, J. and Lu, C. (2018) *Cell-type-specific brain methylomes profiled via ultralow-input microfluidics* Nat. Biomed. Engineer., **2**, 183–194
- Marcora, E.** and Kennedy, M.B. (2010) *The Huntington's disease mutation impairs Huntingtin's role in the transport of NF- $\kappa$ B from the synapse to the nucleus* Hum. Mol. Genet., **19**, 4373–4384
- Marion-Poll, L.**, Montalban, E., Munier, A., Hervé, D. and Girault, J-A. (2014) *Fluorescence-activated sorting of fixed nuclei: a general method for studying nuclei from specific cell populations that preserves post-translational modifications* Eur. J. Neurosci., **39**, 1234–1244
- Mellén, M.**, Ayata, P., Dewell, S., Kriaucionis, S. and Heintz, N. (2012) *MeCP2 binds to 5hmC enriched within active genes and accessible chromatin in the nervous system* Cell **151**, 1417–1430
- Mellén, M.**, Ayata, P. and Heintz, N. (2017) *5-hydroxymethylcytosine accumulation in postmitotic neurons results in functional demethylation of expressed genes* Proc. Natl. Acad. Sci. USA, **114**, E7812–E7821
- Merritt, S.E.**, Mata, M., Nihalani, D., Zhu, C., Hu, X. and Holzman, L.B. (1999) *The mixed lineage kinase DLK utilizes MKK7 and not MKK4 as substrate* J. Biol. Chem., **274**, 10195-10202
- Palmowski, P.**, Rogowska-Wrzesinska, A., Williamson, J., Beck, H.C., Mikkelsen, J.D., Hansen, H.H. and Jensen, O.N. (2014) *Acute phencyclidine treatment induces extensive and distinct protein phosphorylation in rat frontal cortex* J. Proteome Res., **13**, 1578-1592
- Sharma, N.**, Pollina, E.A., Nagy, M.A., Yap, E-L., DiBiase, F.A., Hrvatin, S., Hu, L., Lin, C. and Greenberg, M.E. (2019) *ARNT2 tunes activity-dependent gene expression through NCoR2-mediated repression and NPAS4-mediated activation* Neuron **102**, 390–406
- Tillotson, R.**, Selfridge, J., Koerner, M.V., Gadalla, K.K.E., Guy, J., De Sousa, D., Hector, R.D., Cobb, S.R. and Bird, A. (2017) *Radically truncated MeCP2 rescues Rett syndrome-like neurological defects* Nature **550**, 398-401
- Tuesta, L.M.**, Djekidel, M.N., Chen, R., Lu, F., Wang, W., Sabatini, B.L. and Zhang, Y. (2019) *In vivo nuclear capture and molecular profiling identifies Gmeb1 as a transcriptional regulator essential for dopamine neuron function* Nat. Comm., **10**: 2508
- Von Schimmelmann, M.**, Feinberg, P.A., Sullivan, J.M., Ku, S.M., Badimon, A., Duff, M.K., Wang, Z., Lachmann, A., Dewell, S. et al (2016) *Polycomb repressive complex 2 (PRC2) silences genes responsible for neurodegeneration* Nat. Neurosci., **19**, 1321-1330
- Yamamoto, Y.**, Jones, K.A., Mak, B.C., Muehlenbachs, A. and Yeung, R.S. (2002) *Multicompartmental distribution of tuberous sclerosis gene products, hamartin and tuberlin* Arch. Biochem. Biophys., **404**, 210-217
- Zetsche, B.**, Heidenreich, M., Mohanraju, P., Fedorova, I., Kneppers, J., DeGennaro, E.M., Winblad, N., Choudhury, S.R. et al (2017) *Multiplex gene editing by CRIS PR-Cpf1 using a single crRNA array* Nat. Biotechnol., **35** 31-34
- Zhu, B.**, Hsieh, Y-P., Murphy, T.W., Zhang, Q., Naler, L.B. and Lu, C. (2019) *MOWChIP-seq for low-input and multiplexed profiling of genome-wide histone modifications* Nature Protoc., **14**, 3366–3394

### Caco-2 cells

- Barta, C.A.**, Sachs-Barrable, K., Feng, F. and Wasan, K.M. (2008) *Effects of monoglycerides on P-glycoprotein: modulation of the activity and expression in Caco-2 cell monolayers* Mol. Pharmaceut., **5**, 863-875

### Caenorhabditis elegans

- Steiner, F.A.**, Talbert, P.B., Kasinathan, S., Deal, R.B. and Henikoff, S. (2012) *Cell-type-specific nuclei purification from whole animals for genome-wide expression and chromatin profiling* Genome Res., **22**:766–777
- Steiner, F.A.** and Henikoff, S. (2015) *Cell type-specific affinity purification of nuclei for chromatin profiling in whole animals* In The Nucleus, Methods in Mol. Biol. **1228** (ed. Hancock, R.) Springer Science+Business Media New York, pp 3-14

**Carcinoma cells: see also “Hepatoma cells” and “Human tissues (frozen)”**

- Cohen, R.N.**, van der Aa, M.A.E.M., Macaraeg, N., Lee, A.P. and Szoka, F.C. (2009) *Quantification of plasmid DNA copies in the nucleus after lipoplex and polyplex transfection* J. Control. Release **135** (2009) 166–174
- Corsi, L.**, Geminiani, E., Avallone, R. and Baraldi, M. (2005) *Nuclear location-dependent role of peripheral benzodiazepine receptor (PBR) in hepatic tumoral cell lines proliferation* Life Sci., **76**, 2523-2533
- Dubash, A.D.**, Guilluy, C., Srougi, M.C., Boulter, E., Burridge, K. and Garcia-Mata, R. (2011) *The small GTPase RhoA localizes to the nucleus and is activated by Net1 and DNA damage signals* PLoS One, **6**: e17380
- Dumas, N.A.**, He, D., Frost, A.R. and Falany, C.N. (2008) *Sulfotransferase 2B1b in human breast: Differences in subcellular localization in African American and Caucasian women* J. Steroid Biochem Mol. Biol., **111**, 171-177
- Duxin J.P.**, Dao, B., Martinsson, P., Rajala, N., Guittat, L., Campbell, J.L., Spelbrink, J.N. and Stewart, S.A. (2009) *Human Dna2 is a nuclear and mitochondrial DNA maintenance protein* Mol. Cell. Biol., **29**, 4274-4282
- Falany, C.N.**, He, D., Dumas, N., Frost, A.R. and Falany, J.L. (2006) *Human cytosolic sulfotransferase 2B1: Isoform expression, tissue specificity and subcellular localization* J. Steroid Biochem. Mol. Biol., **102**, 214-221
- He, D.** and Falany, C.N. (2006) *Characterization of proline-serine-rich carboxyl terminus in human sulfotransferase 2B1b: immunogenicity, subcellular localization, kinetic properties, and phosphorylation* Drug. Metab. Dispos., **34**, 1749-1755
- Henaff, D.**, Rémillard-Labrosse, G., Loret, S. and Lippé, R. (2013) *Analysis of the early steps of herpes simplex virus 1 capsid tegumentation* J. Virol., **87**, 4895–4906
- Hensen, F.**, Moretton, A., van Esveld, S., Farge, G. and Spelbrink, J.N. (2018) *The mitochondrial outer membrane location of the EXD2 exonuclease contradicts its direct role in nuclear DNA repair* Sci. Rep., **8**: 5368
- Huff, L.P.**, DeCristo, M.J., Trembath, D., Kuan, P.F., Yim, M., Liu, J., Cook, D.R., Miller, R., Der, C.J. and Cox, A.D. (2013) *The role of Ect2 nuclear RhoGEF activity in ovarian cancer cell transformation* Genes Cancer, **4**, 460-475
- Iilina, P.**, Hyvonen, Z., Saura, M., Sandvig, K., Yliperttula, M. and Ruponen, M. (2012) *Genetic blockage of endocytic pathways reveals differences in the intracellular processing of non-viral gene delivery systems* J. Control. Release, **163**, 385–395
- Iordanskiy, S.**, Berro, R., Altieri, M., Kashanchi, F. and Bukrinsky, M. (2006) *Intracytoplasmic maturation of the human immunodeficiency virus type 1 reverse transcription complexes determines their capacity to integrate into chromatin* Retrovirology, **3**, 1-12
- Iordanskiy, S.N.** and Bukrinsky, M.I. (2009) *Analysis of viral and cellular proteins in HIV-1 reverse transcription complexes by co-immunoprecipitation* In: HIV Protocols 2<sup>nd</sup> edition, Methods Mol. Biol. **485** (eds. Prasad, V.R. and Kalpana, G.V.), Humana Press, Totowa, NJ pp 121-134
- Kung, C-P.**, and Raab-Traub, N. (2008) *Epstein-Barr virus latent membrane protein 1 induces expression of the epidermal growth factor receptor through effects on Bcl-3 and STAT3* J. Virol., **82**, 5486-5493
- Kung, C-P.** and Raab-Traub, N. (2010) *Epstein-Barr virus latent membrane protein 1 modulates distinctive NF- $\kappa$ B pathways through C-terminus-activating region 1 to regulate epidermal growth factor receptor expression* J. Virol., **84**, 6605-6614
- Liffers, S-T.**, Maghnoouj, A., Munding, J.B., Jackstadt, R., Herbrand, U., Schulenburg, T., Marcus, K., Klein-Scory, S., Schmiegel, W., Schwarte-Waldhoff, I., Meyer, H.E., Stühler, K. and Hahn, S.A. (2011) *Keratin 23, a novel DPC4/Smad4 target gene which binds 14-3-3 $\epsilon$*  BMC Cancer. **11**: 137
- Lu, Z.**, Ghosh, S., Wang, Z. and Hunter, T. (2003) *Down-regulation of caveolin-1 function by EGF leads to the loss of E-cadherin, increased transcriptional activity of  $\beta$ -catenin, and enhanced tumor cell invasion* Cancer Cell, **4**, 499-515
- Martin, T.M.**, Wysocki, B.J., Beyersdorf, J.P., Wysocki, T.A. and Pannier, A.K. (2014) *Integrating mitosis, toxicity, and transgene expression in a telecommunications packet-switched network model of lipoplex-mediated gene delivery* Biotechnol. Bioeng., **111**, 1659–1671
- Morrison, J.A.**, Gulley, M.L., Pathmanathan, R. and Raab-Traub, N. (2004) *Differential signaling pathways are activated in the Epstein-Barr virus-activated malignancies nasopharyngeal carcinoma and Hodgkin lymphoma* Cancer. Res., **64**, 5251-5260
- Morrison, T.E.** and Kenney, S.C. (2004) *BZLF1, an Epstein-Barr virus immediate-early protein, induces p65 nuclear translocation while inhibiting p65 transcriptional function* Virology, **328**, 219-232
- Parelkar, S.S.**, Letteri, R., Chan-Seng, D., Zolochesvska, O., Ellis, J., Figueiredo, M. and Emrick, T. (2014) *Polymer-peptide delivery platforms: effect of oligopeptide orientation on polymer-based DNA delivery* Biomacromolecules, **15**, 1328-1336
- Rémillard-Labrosse, G.**, Guay, G. and Lippe, R. (2006) *Reconstitution of herpes simplex virus type 1 nuclear capsid egress in vitro* J. Virol., **80**, 9741-9753
- Rémillard-Labrosse, G.** and Lippé, R. (2011) *In vitro nuclear egress of herpes simplex virus type 1 capsids* Methods **55**, 153–159

- Salman, E.D.**, He, D., Runge-Morris, M., b, Kocarek, T.A. and Falany, C.N. (2011) *Site-directed mutagenesis of human cytosolic sulfotransferase (SULT) 2B1b tophospho-mimetic Ser348Asp results in an isoform with increased catalytic activity* J. Steroid Biochem. Mol. Biol., **127**, 315–323
- Thornburg, N.J.**, Pathmanathan, R. and Raab-Traub, N. (2003) *Activation of nuclear factor- $\kappa$ B p50 homodimer/Bcl-3 complexes in nasopharyngeal carcinoma* Cancer. Res., **63**, 8293-8301
- Thornburg, N.J.** and Raab-Traub, N. (2007) *Induction of epidermal growth factor receptor expression by Epstein-Barr virus latent membrane protein 1 C-terminal-activating region 1 is mediated by NF- $\kappa$ B p50 homodimer/Bcl-3 complexes* J. Virol., **81**, 12954-12961
- Van Gaal, E.V.B.**, Oosting, R.S., van Eijk, R., Bakowska, M., Feyen, D., Kok, R.J., Hennink, W.E., Crommelin, D.J.A. and Mastrobattista, E. (2011) *DNA nuclear targeting sequences for non-viral gene delivery* Pharm. Res., **28**, 1707–1722
- Zippin, J.H.**, Farrell, J., Huron, D., Kamenetsky, M., Hess, K.C., Fischman, D.A., Levin, L.R. and Buck, J. (2004) *Bicarbonate-responsive “soluble” adenylyl cyclase defines a nuclear camp microdomain* J. Cell Biol., **164**, 527-534

### CHO cells

- Macaraeg, N.F.**, Reilly, D.E. and Wong, A.W. (2013) *Use of an anti-apoptotic CHO cell line for transient gene expression* Biotechnol. Prog., **29**, 1050–1058
- Nomani, A.**, Hyvönen, Z., Pulkkinen, E., Hiekkala, M., Ruponen, M. (2014) *Intracellular gene delivery is dependent on the type of non-viral carrier and defined by the cell surface glycosaminoglycans* J. Control. Release, **187**, 59–65
- Valenzuela, S.M.**, Martin, D.K., Por, S.B., Robbins, J.M., Warton, K., Bootcov, M.R., Schofield, P.R., Campbell, T.J. and Breit, S.N. (1997) *Molecular cloning and expression of a chloride ion channel of cell nuclei* J. Biol. Chem., **272**, 12575-12582
- Ziraksaz, Z.**, Nomani, A., Ruponen, M., Soleimani, M., Tabbakhian, M. and Haririan, I. (2013) *Cell-surface glycosaminoglycans inhibit intranuclear uptake but promote post-nuclear processes of polyamidoamine dendrimer-pDNA transfection* Eur. J. Pharmaceut. Sci., **48**, 55–63

### Drosophila melanogaster

- Groen, C.M.**, Jayo, A., Parsons, M. and Tootle, T.L. (2015) *Prostaglandins regulate nuclear localization of Fascin and its function in nucleolar architecture* Mol. Biol. Cell, **26**, 1901-1917
- Shmueli, A.**, Shalit, T., Okun, E. and Shohat-Ophir, G. (2018) *The Toll pathway in the central nervous system of flies and mammals* Neuromol. Med., **20**, 419–436
- Steiner, F.A.**, Talbert, P.B., Kasinathan, S., Deal, R.B. and Henikoff, S. (2012) *Cell-type-specific nuclei purification from whole animals for genome-wide expression and chromatin profiling* Genome Res., **22**:766–777
- Ye, Y.**, Gu, L., Chen, X., Shi, J., Zhang, X. and Jiang, C. (2016) *Chromatin remodeling during the in vivo glial differentiation in early Drosophila embryos* Sci. Rep., **6**: 33422
- Ye, Y.**, Li, M., Gu, L., Chen, X., Shi, J., Zhang, X. and Jiang, C. (2017) *Chromatin remodeling during in vivo neural stem cells differentiating to neurons in early Drosophila embryos* Cell Death Different., **24**, 409–420

### Endothelial cells

- Hahn, A.S.** and Desrosiers, R.C. (2013) *Rhesus monkey rhadinovirus uses Eph family receptors for entry into B cells and endothelial cells but not fibroblasts* PLoS Pathog., **9**: e1003360
- Lucero, H.A.**, Kintsurashvili, E., Marketou, M.E. and Gavras, H. (2010) *Cell signaling, internalization, and nuclear localization of the angiotensin converting enzyme in smooth muscle and endothelial cells* J. Biol. Chem., **285**, 5555-5568

### Epithelial cells

- Garcia-Mata, R.**, Dubash, A.D., Sharek, L., Carr, H.S., Frost, J.A. and Burrridge, K. (2007) *The nuclear RhoA exchange factor Net1 interacts with proteins of the Dlg family, affects their localization and influences their tumor suppressor activity* Mol. Cell. Biol., **27**, 8683-8697
- Hyvönen, Z.**, Hämäläinen, V., Ruponen, M., Lucas, B., Rejman, J., Vercauteren, D., Demeester, J., De Smedt, S. and Braeckmans, K. (2012) *Elucidating the pre- and post-nuclear intracellular processing of 1,4-dihydropyridine based gene delivery carriers* J. Control. Release, **162**, 167–175

### Fibroblasts

- Botting, C.**, Lu, X. and Triezenberg, S.J. (2016) *H2AX phosphorylation and DNA damage kinase activity are dispensable for herpes simplex virus replication* Virol. J., **13**: 15

- Brock, I.**, Krüger, M., Mertens, T. and von Einem, J. (2013) *Nuclear targeting of human cytomegalovirus large tegument protein pUL48 is essential for viral growth* J. Virol., **87**, 6005–6019
- Burke, C.W.**, Gardner, C.L., Steffan, J.J., Ryman, K.D. and Klimstra, W.B. (2009) *Characteristics of alpha/beta interferon induction after infection of murine fibroblasts with wild-type and mutant alphaviruses* Virology **395**, 121–132
- Duxin J.P.**, Dao, B., Martinsson, P., Rajala, N., Guittat, L., Campbell, J.L., Spelbrink, J.N. and Stewart, S.A. (2009) *Human Dna2 is a nuclear and mitochondrial DNA maintenance protein* Mol. Cell. Biol., **29**, 4274–4282
- Gaboreanu, A-M.**, Hrstka, R., Xu, W., Shy, M., Kamholz, J., Lilien, J. and Balsamo, J. (2007) *Myelin protein zero/P0 phosphorylation and function require an adaptor protein linking it to RACK1 and PKC $\alpha$*  J. Cell. Biol., **177**, 707–716
- Hahn, A.S.** and Desrosiers, R.C. (2013) *Rhesus monkey rhadinovirus uses Eph family receptors for entry into B cells and endothelial cells but not fibroblasts* PLoS Pathog., **9**: e1003360
- Hurwitz, S.N.**, Nkosi, D., Conlon, M.M., York, S.B., Liu, X., Tremblay, D.C. and Meckes, D.G. (2017) *CD63 regulates Epstein-Barr virus LMP1 exosomal packaging, enhancement of vesicle production, and noncanonical NF- $\kappa$ B signaling* J. Virol., **91**: e02251-16
- Kegel, K.**, Meloni, A.R., Yi, Y., Kim, Y.J., Doyle, E., Cuiffo, B.G., Sapp, E., Wang, Y., Qin, Z-H., Chen, J.D., Nevins, J.R., Aronin, N. and DiFiglia, M. (2002) *Huntingtin is present in the nucleus, interacts with the transcriptional corepressor C-terminal binding protein, and represses transcription* J. Biol. Chem., **277**, 7466–7476
- Krishnan, H.H.**, Sharma-Walia, N., Strelbow, D.N., Naranatt, P.P. and Chandran, B. (2006) *Focal adhesion kinase is critical for entry of Kaposi's sarcoma-associated herpesvirus into target cells* J. Virol., **80**, 1167–1180
- Montgomery, S.A.**, Berglund, P., Beard, C.W. and Johnston, R.E. (2006) *Ribosomal protein S6 associates with alphavirus nonstructural protein 2 and mediates expression from alphavirus messages* J. Virol., **80**, 7729–7739
- Montgomery, S.A.** and Johnston, R.E. (2007) *Nuclear import and export of Venezuelan equine encephalitis virus nonstructural protein 2* J. Virol., **81**, 10268–10279
- Naranatt, P.P.**, Krishnan, H.H., Smith, M.S. and Chandran, B. (2005) *Kaposi's sarcoma-associated herpesvirus modulates microtubule dynamics via RhoA-GTP-diaphanous 2 signaling and utilizes the dynein motors to deliver its DNA to the nucleus* J. Virol., **79**, 1191–1206
- Pandey, S.**, Talukdar, I., Jain, B.P. and Goswami, S.K. (2017) *GSK3 $\beta$  and ERK regulate the expression of 78 kDa SG2NA and ectopic modulation of its level affects phases of cell cycle* Sci. Rep., **7**: 7555
- Qin, Z-H.**, Wang, Y., Kikly, K.K., Sapp, E., Kegel, K.B., Aronin, N. and DiFiglia, M. (2001) *Pro-caspase-8 is pre-dominantly localized in mitochondria and released into cytoplasm upon apoptotic stimulation* J. Biol. Chem., **276**, 8079–8086
- Sinnger, C.**, Kahl, M., Laib, K., Klingel, K., Rieger, P., Plachter, B. and Jahn, G. (2000) *Tropism of human cytomegalovirus for endothelial cells is determined by a post-entry step dependent on efficient translocation to the nucleus* J. Gen. Virol., **81**, 3021–3035
- Xia, Y.**, Wang, J., Liu, T-J., Yung, W.K.A., Hunter, T., Lu, Z. (2007) *c-Jun down-regulation by HDAC3-dependent transcriptional repression promotes osmotic stress-induced cell apoptosis* Mol. Cell, **25**, 219–232

## **Glioblastoma see Neuroblastoma**

### **Granulosa (ovarian) cells**

- Chen, H.**, Guo, J.H., Lu, Y.C., Ding, G.L., Yu, M.K., Tsang, L.L., Fok, K.L. et al (2012) *Impaired CFTR-dependent amplification of FSH-stimulated estrogen production in cystic fibrosis and PCOS* J. Clin. Endocrinol. Metab., **97**, 923–932

### **Heart tissue**

- Bhattacharyya, S.**, Sathe, A.A., Bhakta, M., Xing, C. and Munshi, N.V. (2019) *PAN-INTACT enables direct isolation of lineage-specific nuclei from fibrous tissues* PLoS One. **14**: e0214677
- Monroe, T.O.**, Hill, M.C., Morikawa, Y., Leach, J.P., Heallen, T., Cao, S., Krijger, P.H.L., de Laat, W., Wehrens, X.H.T., Rodney, G.G. and Martin, J.F. (2019) *YAP partially reprograms chromatin accessibility to directly induce adult cardiogenesis in vivo* Devel. Cell, **48**, 765–779

### **HEK cells**

- Choi, Y.B.**, Sandford, G. and Nicholas, J. (2012) *Human herpesvirus 8 interferon regulatory factor-mediated BH3-only protein inhibition via Bid BH3-B mimicry* PLoS Pathog., **8**: e1002748
- Cooper, H.M.** and Spelbrink, J.N. (2008) *The human SIRT3 protein deacetylase is exclusively mitochondrial* Biochem. J., **411**, 279–285

- Dubash, A.D.**, Guilluy, C., Srougi, M.C., Boulter, E., BurrIDGE, K. and García-Mata, R. (2011) *The small GTPase RhoA localizes to the nucleus and is activated by Net1 and DNA damage signals* PLoS One, **6**: e17380
- Duxin J.P.**, Dao, B., Martinsson, P., Rajala, N., Guittat, L., Campbell, J.L., Spelbrink, J.N. and Stewart, S.A. (2009) *Human Dna2 is a nuclear and mitochondrial DNA maintenance protein* Mol. Cell. Biol., **29**, 4274-4282
- Guilluy, C.**, Dubash, A.D. and García-Mata, R. (2011) *Analysis of RhoA and Rho GEF activity in whole cells and the cell nucleus* Nat. Protocols **6**, 2050-2060
- Hurwitz, S.N.**, Nkosi, D., Conlon, M.M., York, S.B., Liu, X., Tremblay, D.C. and Meckes, D.G. (2017) *CD63 regulates Epstein-Barr virus LMP1 exosomal packaging, enhancement of vesicle production, and noncanonical NF- $\kappa$ B signaling* J. Virol., **91**: e02251-16
- Joyal, J-S.**, Nim, S., Zhu, T., Sitaras, N. et al (2014) *Subcellular localization of coagulation factor II receptor-like 1 in neurons governs angiogenesis* Nature Med., **20**, 1165-1173
- Lang, W-H.**, Calloni, G. and Vabulas, R.M. (2018) *Polylysine is a proteostasis network-engaging structural determinant* J. Proteome Res., **17**, 1967–1977
- Liffers, S-T.**, Maghnouj, A., Munding, J.B., Jackstadt, R., Herbrand, U., Schulenburg, T., Marcus, K. et al (2011) *Keratin 23, a novel DPC4/Smad4 target gene which binds 14-3-3 $\epsilon$*  BMC Cancer. **11**: 137
- Sergin, I.**, Jong, Y-J.I., Harmon, S.K., Kumar, V. and O'Malley, K.L. (2017) *Sequences within the C terminus of the metabotropic glutamate receptor 5 (mGluR5) are responsible for inner nuclear membrane localization* J. Biol. Chem., **292**, 3637–3655

### HeLa cells

- Du, M. and Chen, Z.J. (2018) *DNA-induced liquid phase condensation of cGAS activates innate immune signaling* Science **361**, 704–709

### Hepatoma cells

- Barthelson, R.A.**, Lambert, G.M., Vanier, C., Lynch, R.M. and Galbraith, D.W. (2007) *Comparison of the contributions of the nuclear and cytoplasmic compartments to global gene expression in human cells* BMC Genom., **8**:340
- Wua, M-J.**, Ke, P-Y., and Horng, J-T. (2014) *RacGTPase-activating protein 1 interacts with hepatitis C virus polymerase NS5B to regulate viral replication* Biochem. Biophys. Res. Comm., **454**, 19–24

### Human tissues (frozen)

- Corces, M.R.**, Trevino, A.E., Hamilton, E.G., Greenside, P.G., Sinnott-Armstrong, N.A., Vesuna, S., Satpathy, A.T., Rubin, A.J., Montine, K.S. et al (2017) *An improved ATAC-seq protocol reduces background and enables interrogation of frozen tissues* Nat. Meth., **14**, 959-962
- Mathys, H.**, Davila-Velderrain, J., Peng, Z., Gao, F., Mohammadi, S., Young, J.Z., Menon, M., He, L., Abdurrob, F. et al (2019) *Single-cell transcriptomic analysis of Alzheimer's disease* Nature, **570**, 332-337

### Keratinocytes

- Morrison, J.A.**, Klingelutz, A.J. and Raab-Traub, N. (2003) *Epstein-Barr virus latent membrane protein 2A activates  $\beta$ -catenin signaling in epithelial cells* J. Virol., **77**, 12276-12284
- Morrison, J.A.** and Raab-Traub, N. (2005) *Roles of the ITAM and PY motifs of Epstein-Barr virus latent membrane protein 2A in the inhibition of epithelial cell differentiation and activation of  $\beta$ -catenin signaling* J. Virol., **79**, 2375-2382
- Siler, C.A.** and Raab-Traub, N. (2008) *Rhesus lymphocryptovirus latent membrane protein 2A activates  $\beta$ -catenin signaling and inhibits differentiation in epithelial cells* Virology, **377**, 273-279

### Kidney

- Gwathmey, T.M.**, Pendergrass, K.D., Pirro, N.T., Shaltout, H.A., Reid, S.D., Rose, J.C. and Chappell, M.C. (2009) *Nuclear AT2 receptors mediate angiotensin II-dependent generation of nitric oxide* FASEB J., **23**, Abstr. 606.9
- Gwathmey, T-Y.M.**, Shaltout, H.A., Pendergrass, K.D., Pirro, N.T., Figueroa, J.P., Rose, J.C., Diz, D.I. and Chappell, M.C. (2009) *Nuclear angiotensin II type 2 (AT2) receptors are functionally linked to nitric oxide production* Am. J. Physiol. Renal Physiol., **296**, F1484–F1493
- Gwathmey, T.M.**, Pendergrass, K.D., Reid, S.D., Rose, J.C., Diz, D.I. and Chappell, M.C. (2010) *Angiotensin-(1-7)-angiotensin-converting enzyme 2 attenuates reactive oxygen species formation to angiotensin II within the cell nucleus* Hypertension, **55**, 166-171
- Gwathmey, T.M.**, Westwood, B.M., Pirro, N.T., Tang, L., Rose, J.C., Diz, D.I. and Chappell, M.C. (2010) *Nuclear angiotensin-(1-7) receptor is functionally coupled to the formation of nitric oxide* Am. J. Physiol. Renal Physiol., **299**, F983–F990

- Gwathmey, T.Y.M.**, Shaltout, H.A., Rose, J.C., Diz, D.I. and Chappell, M.C. (2011) *Glucocorticoid-induced fetal programming alters the functional complement of [angiotensin receptor subtypes](#) within the kidney* Hypertension, **57**, 620-626
- Gwathmey, T.M.**, Alzayadneh, E.M., Pendergrass, K.D. and Chappell, M.C. (2012) *Novel roles of nuclear [angiotensin receptors](#) and [signaling mechanisms](#)* Am. J. Physiol. Regul. Integr. Comp. Physiol., **302**, R518–R530
- Pendergrass, K.D.**, Averill, D.B., Ferrario, C.M., Diz, D.I. and Chappell, M.C. (2006) *Differential expression of nuclear [AT1 receptors](#) and [angiotensin II](#) within the kidney of the male congenic mRen2.Lewis rat* Am. J. Physiol. Renal Physiol., **290**, F1497-F1506

### **Leishmania**

- Jardim, A.**, Hardie, D.B., Boitz, J. and Borchers, C.H. (2018) *Proteomic profiling of [Leishmania donovani](#) promastigote subcellular organelles* J. Proteome Res., **17**, 1194–1215

### **Liver**

- Anderson, D.D.** and Stover, P.J. (2009) *[SHMT1](#) and [SHMT2](#) are functionally redundant in nuclear *de novo* thymidylate biosynthesis* PLoS One, **4**:e5839
- Caro, P.**, Gómez, J., Arduini, A., González-Sánchez, M., González-García, M., Borrás, C., Viña, J., Puertas, M.J., Sastre, J. and Barja, G. (2010) *[Mitochondrial DNA sequences](#) are present inside nuclear DNA in rat tissues and increase with age* Mitochondrion **10**, 479–486
- Diaz, M.B.**, Lange, M., Heldmaier, G. and Klingenspor, M. (2004) *Depression of [transcription and translation](#) during [daily torpor](#) in the Djungarian hamster (*Phodopus sungorus*)* J. Comp. Physiol. B, **174**, 495-502
- Field, M.S.**, Kamynina, E., Agunloye, O.C., Liebenthal, R.P., Lamarre, S.G., Brosnan, M.E., Brosnan, J.T. and Stover, P.J. (2014) *Nuclear enrichment of [folate cofactors](#) and [methylenetetrahydrofolate dehydrogenase 1 \(MTHFD1\)](#) protect *de novo* thymidylate biosynthesis during folate deficiency* J. Biol. Chem., **289**, 29642–29650
- Garcia, D.**, Hellberg, K., Chaix, A., Wallace, M., Herzig, S., Badur, M.G., Lin, T., Shokhirev, M.N., Pinto, A.F.M., Ross, D.S., et al (2019) *[Genetic liver-specific AMPK activation](#) protects against [diet-induced obesity](#) and [NAFLD](#)* Cell Rep., **26**, 192–208
- Graham, J.**, Ford, T. and Rickwood, D (1994) *The [preparation of subcellular organelles](#) from mouse liver in self-generated gradients of iodixanol* Anal. Biochem., **220**, 367-373
- Hofer, T.** and Moller, L. (2002) *Optimization of the workup procedure for the analysis of [8-oxo-7, 8-dihydro-2'-deoxyguanosine](#) with electrochemical detection* Chem. Res. Toxicol., **15**, 426-432
- Linder, B.**, Grozhik, A.V., Orlarerin-George, A.O., Meydan, C., Mason, C.E. and Jaffrey, S.R. (2015) *Single-nucleotide-resolution mapping of [m6A](#) and [m6Am](#) throughout the transcriptome* Nat. Methods, **12**, 767-772
- MacFarlane, A.J.**, Anderson, D.D., Flodby, P., Perry, C.A., Allen, R.H., Stabler, S.P. and Stover, P.J. (2011) *Nuclear localization of [de novo thymidylate biosynthesis pathway](#) is required to prevent [uracil accumulation](#) in DNA* J. Biol. Chem., **286**, 44015–44022
- Pan, P.**, Treat, M.D. and van Breukelen, F. (2014) *A systems-level approach to understanding [transcriptional regulation by p53](#) during mammalian hibernation* J. Exp. Biol., **217**, 2489-2498
- Pyhtila, B.**, Zheng, T., Lager, P.J., Keene, J.D., Reedy, M.C. and Nicchita, C.V. (2008) *Signal sequence- and translation-independent [mRNA localization](#) to the endoplasmic reticulum* RNA, **14**, 445-453
- Provost, J.J.**, Fudge, J., Israelit, S., Siddiqi, A.R. and Exton, J.H. (1996) *Tissue-specific distribution and subcellular distribution of [phospholipase D](#) in rat: evidence for distinct [RhoA-](#) and [ADP-ribosylation factor \(ARF\)-regulated isoenzymes](#)* Biochem. J., **319**, 285-291
- Robertson, A.B.**, Robertson, J., Fusser, M. and Klungland, A. (2014) *[Endonuclease G](#) preferentially cleaves [5-hydroxymethylcytosine-modified DNA](#) creating a substrate for recombination* Nucleic Acids Res., **42**, 13280–13293
- Sucajtyś-Szulc, E.**, Szolkiewicz, M., Swierczynski, J. and Rutkowski, B. (2016) *Up-regulation of [Hnf1a](#) gene expression in the liver of rats with experimentally induced [chronic renal failure](#) - A possible link between circulating [PCSK9](#) and [triacylglycerol](#) concentrations* Atherosclerosis **248**, 17-26
- Van Breukelen, F.** and Martin, S.L. (2002) *Reversible depression of [transcription](#) during [hibernation](#)* J. Comp. Physiol. B., **172**, 355-361
- Yamamoto, Y.**, Jones, K.A., Mak, B.C., Muehlenbachs, A. and Yeung, R.S. (2002) *Multicompartmental distribution of tuberous sclerosis gene products, [hamartin](#) and [tuberin](#)* Arch. Biochem. Biophys., **404**, 210-217
- Zhou, W.**, Zhang, Y., Hosch, M.S., Lang, A., Zwacka, R.M. and Engelhardt, J.F. (2001) *Subcellular site of [superoxide dismutase](#) expression differentially controls [AP-1 activity and injury](#) in mouse liver following [ischemia/reperfusion](#)* Hepatology, **33**, 902-914



### **Lymphoid/monocytic cells**

- Bowick, G.C.**, Fennewald, S.M., Scott, E.P., Zhang, L-H., Elsom, B.L., Aronson, J.F., Spratt, H.M., Luxon, B.A., Gorenstein, D.G. and Herzog, N.K. (2007) *Identification of differentially activated cell-signaling networks associated with Pichinde virus pathogenesis by using systems kinomics* J. Virol., **81**, 1923-1933
- Engelke, R.**, Riede, J., Hegermann, J., Wuerch, A., Eimer, S., Dengjel, J. and Mittler, G. (2014) *The quantitative nuclear matrix proteome as a biochemical snapshot of nuclear organization* J. Proteome Res., **13**, 3940–3956
- Seres, T.**, Knickelbein, R.G., Warshaw, J.B. and Johnston, Jr, R.B. (2000) *The phagocytosis-associated respiratory burst in human monocytes is associated with increased uptake of glutathione* J. Immunol., **165**, 3333-3340
- Thornburg, N.J.**, Kusano, S. and Raab-Traub, N. (2005) *Identification of Epstein-Barr virus RK-BARF0-interacting proteins and characterization of expression pattern* J. Virol., **78**, 12848-12856 (2004)
- Tomlinson, C.C.** and Damania, B. (2004) *The K1 protein of Kaposi's sarcoma-associated herpesvirus activates the Akt signaling pathway* J. Virol., **78**, 1918-1927
- Weichhart, T.**, Haidinger, M., Katholnig, K., Kopecky, C., Poglitsch, M., Lassnig, C., Rosner, M., Zlabinger, G.J. et al (2011) *Inhibition of mTOR blocks the anti-inflammatory effects of glucocorticoids in myeloid immune cells* Blood, **117**, 4273-4283

### **Macrophages**

- Andreyev, A.Y.**, Shen, Z., Guan, Z., Ryan, A., Fahy, E., Subramaniam, S., Raetz, C.R.H., Briggs, S. and Dennis, E.A. (2010) *Application of proteomic marker ensembles to subcellular organelle identification* Mol. Cell. Proteomics, **9**, 388–402
- Andreyev, A.Y.**, Fahy, E., Guan, Z., Kelly, S., Li, X., McDonald, J.G., Milne, S., Myers, D., Park, H., et al (2010) *Subcellular organelle lipidomics in TLR-4-activated macrophages* J. Lipid Res., **51**, 2785–2797
- Bowick, G.C.**, Fennewald, S.M., Scott, E.P., Zhang, L-H., Elsom, B.L., Aronson, J.F., Spratt, H.M., Luxon, B.A., Gorenstein, D.G. and Herzog, N.K. (2007) *Identification of differentially activated cell-signaling networks associated with Pichinde virus pathogenesis by using systems kinomics* J. Virol., **81**, 1923-1933
- Bowick, G.C.**, Spratt, H.M., Hogg, A.E., Endsley, J.J., Wiktorowicz, J.E., Kurosky, A., Luxon, B.A., Gorenstein, D.G. and Herzog, N.K. (2009) *Analysis of the differential host cell nuclear proteome induced by attenuated and virulent hemorrhagic arenavirus infection* J. Virol., **83**, 687-700
- Kassas, N.**, Tanguy, E., Thahouly, T., Fouillen, L., Heintz, D., Chasserot-Golaz, S., Bader, M-F., Grant, N.J. and Vitale, N. (2017) *Comparative characterization of phosphatidic acid sensors and their localization during frustrated phagocytosis* J. Biol. Chem., **292**, 4266–4279
- Satyanarayanan, S.K.**, El Kebir, D., Soboh, S., Butenko, S., Sekheri, M., Saadi, J., Peled, N., Assi, S., Othman, A. et al (2019) *IFN-β is a macrophage-derived effector cytokine facilitating the resolution of bacterial inflammation* Nat. Comm., **10**: 3471

### **Mammary tissue**

- Dumas, N.A.**, He, D., Frost, A.R. and Falany, C.N. (2008) *Sulfotransferase 2B1b in human breast: Differences in subcellular localization in African American and Caucasian women* J. Steroid Biochem Mol. Biol., **111**, 171-177

### **Mesenchymal stem cells**

- Kelly, A.M.**, Plautz, S.A., Zempleni, J. and Pannier, A.K. (2016) *Glucocorticoid cell priming enhances transfection outcomes in adult human mesenchymal stem cells* Mol. Ther., **24**, 331–341

### **Microglial cells: see Neural/neural progenitor/microglial cells**

### **Mouse embryo cells (10T1/2)**

- Staus, D.P.**, Weise-Cross, L., Mangum, K.D., Medlin, M.D., Mangiante, L., Taylor, J.M. and Mack, C.P. (2014) *Nuclear RhoA signaling regulates MRTF-dependent SMC-specific transcription* Am. J. Physiol. Heart Circ. Physiol., **307**, H379–H390

### **Mouse mammary tissue**

- Fujiwara, S.**, Baek, S., Varticovski, L., Kim, S. and Hager, G.L. (2019) *High quality ATAC-Seq data recovered from cryopreserved breast cell lines and tissue* Sci. Rep., **9**: 516

## Muscle and myoblasts

- Franko, A.**, von Kleist-Retzow, J.C., Böse, M., Sanchez-Lasheras, C., Brodesser, S., Krut, O., Kunz, W.S., Wiedermann, D. et al (2012) *Complete failure of insulin-transmitted signaling, but not obesity-induced insulin resistance, impairs respiratory chain function in muscle* J. Mol. Med., **90**, 1145–1160
- Hao, Y.** and Gu, X.H. (2014) *Effects of heat shock protein 90 expression on pectoralis major oxidation in broilers exposed to acute heat stress* Poultry Sci., **93**, 2709–2717
- Parelkar, S.S.**, Chan-Seng, D. and Emrick, T. (2011) *Reconfiguring polylysine architectures for controlling polyplex binding and non-viral transfection* Biomaterials, **32**, 2432-2444

## Neural/neural progenitor/microglial cells

- Ayata, P.**, Badimon, A., Strasburger, H.J., Duff, M.K., Montgomery, S.E., Loh, Y-H.E., Ebert, A., Pimenova, A.A, et al (2018) *Epigenetic regulation of brain region-specific microglia clearance activity* Nat. Neurosci., **21**, 1049–1060
- Fortin Ensign, S.P.**, Roos, A., Mathews, I.T., Dhruv, H.D., Tuncali, S., Sarkaria, J.N., Symons, M.H. Loftus, J.C. et al (2016) *SGEF is regulated via TWEAK/Fn14/NF- $\kappa$ B signaling and promotes survival by modulation of the DNA repair response to temozolomide* Mol. Cancer Res.; **14**, 302–12
- Grindberg, R.V.**, Yee-Greenbaum, J.L., McConnell, M.J., Novotny, M., O’Shaughnessy, A.L., Lambert, G.M., Araúzo-Bravo, M.J. et al (2013) *RNA-sequencing from single nuclei* Proc. Natl. Acad. Sci. USA, **110**, 19802–19807
- Ito-Ishida, A.**, Yamalanchili, H.K., Shao, Y., Baker, S.A., Heckman, L.D., Lavery, L.A., Kim, J-y., Lombardi, L.M. et al (2018) *Genome-wide distribution of linker histone H1.0 is independent of MeCP2* Nat. Neurosci., **21**, 794–798
- Kegel, K.B.**, Kim, M., Sapp, E., McIntyre, C., Castano, J.G., Aronin, N. and DiFiglia, M. (2000) *Huntingtin expression stimulates endosomal-lysosomal activity, endosome tubulation and autophagy* J. Neurosci., **20**, 7268-7278
- Merritt, S.E.**, Mata, M., Nihalani, D., Zhu, C., Hu, X. and Holzman, L.B. (1999) *The mixed lineage kinase DLK utilizes MKK7 and not MKK4 as substrate* J. Biol. Chem., **274**, 10195-10202
- Platt, R.J.**, Chen, S., Zhou, Y., Yim, M.J. et al (2014) *CRISPR-Cas9 knockin mice for genome editing and cancer modeling* Cell, **159**, 440–455
- Yang, C.Z.**, Li, H.L., Zhou, Y., Chai, R.C., Zhao, R., Dong, Y., Xu, Z.Y., Lau, L.T., Yingge, Z., Teng, J., Chen, J. and Yu, A.C.H. (2011) *A new specialization in astrocytes: glutamate- and ammonia-induced nuclear size changes* J. Neurosci. Res., **89**, 2041–2051

## Neuroblastoma/glioblastoma cells

- Burbulis, I.E.**, Wierman, M.B., Wolpert, M., Haakenson, M., Lopes, M-B., Schiff, D., Hicks, J., Loe, J. et al (2018) *Improved molecular karyotyping in glioblastoma* Mutat. Res. Fund. Mol. Mech. Mutagen., **811**, 16–26
- Kleene, R.**, Mzoughi, M., Joshi, G., Kalus, I., Bormann, U., Schulze, C., Xiao, M-F., Dityatev, A. and Schachner, M. (2010) *NCAM-induced neurite outgrowth depends on binding of calmodulin to NCAM and on nuclear import of NCAM and fak fragments* J. Neurosci., **30**, 10784–10798
- Lutz, D.**, Wolters-Eisfeld, G., Joshi, G., Djogo, N., Jakovcevski, I., Schachner, M. and Kleene, R. (2012) *Generation and nuclear translocation of sumoylated transmembrane fragment of cell adhesion molecule L1* J. Biol. Chem., **287**, 17161–17175

## Placenta

- He, D.**, Meloche, C.A., Dumas, N.A., Frost, A.R. and Falany, C.N. (2004) *Different subcellular localization of sulphotransferase 2B1b in human placenta and prostate* Biochem. J., **379**, 533-540

## Plant tissues and cells

- Bedell, J.A.**, Budiman, M.A., Nunberg, A., Citek, R.W., Robbins, D., Jones, J., Flick, E., Rohlfing, T., Fries, J., Bradford, K. et al (2005) *Sorghum genome sequencing by methylation filtration* PLoS Biol **3**: e13
- Dahan, J.**, Pichereaux, C., Rossignol, M., Blanc, S., Wendehenne, D., Pugin, A. and Bourque, S. (2009) *Activation of a nuclear-localized SIPK in tobacco cells challenged by cryptogein, an elicitor of plant defence reactions* Biochem. J., **418**, 191–200
- Ford, T.C.**, Baldwin, J.P. and Lambert, S.J. (1998) *Rapid enzyme-free preparation of starch-free nuclei from plants facilitates studies of chromatin structure. Plant proteins in abiotic stress responses* Plant Protein Club, 1998 Annual Symposium, University of York, p24
- Lannoo, N.**, Peumans, W.J., Van Pamel, E., Alvarez, R., Xiong, T-C., Hause, G., Mazars, C. and Van Damme, E.J.M. (2006) *Localization and in vitro binding studies suggest that the cytoplasmic/nuclear tobacco lectin can interact in situ with high-mannose and complex N-glyc* FEBS Lett., **580**, 6329-6337

- Liu, Z.**, Zhu, Y., Gao, J., Yu, F., Dong, A. and Shen, W-H. (2009) *Molecular and reverse genetic characterization of nucleosome assembly protein1 (NAP1) genes unravels their function in transcription and nucleotide excision repair in Arabidopsis thaliana* Plant J., **59**, 27–38
- Mazars, C.**, Bourque, S., Mithöfer, A., Pugin, A. and Ranjeva, R. (2009) *Calcium homeostasis in plant cell nuclei* New Phytologist, **181**, 261-274
- Regulski, M.**, Lu, Z., Kendall, J., Donoghue, M.T.A., Reinders, J., Llaca, V., Deschamps, S., Smith, A., Levy, D., McCombie, W.R. et al (2013) *The maize methylome influences mRNA splice sites and reveals widespread paramutation-like switches guided by small RNA* Genome Res., **23**, 1651-1662
- Schoupe, D.**, Ghesquière, B., Menschaert, G., De Vos, W.H., Bourque, S., Trooskens, G., Proost, P., Gevaert, K. and Van Damme, E.J.M. (2011) *Interaction of the tobacco lectin with histone proteins* Plant Physiol., **155**, 1091–1102
- Testard, A.**, Da Silva, D., Ormancey, M., Pichereaux, C., Pouzet, C., Jauneau, A., Grat, S. et al (2016) *Calcium- and nitric oxide-dependent nuclear accumulation of cytosolic glyceraldehyde-3-phosphate dehydrogenase in response to long chain bases in tobacco BY-2 cells* Plant Cell. Physiol., **57**, 2221–2231
- Timko, M.P.**, Rushton, P.J., Laudeman, T.W., Bokowiec, M.T., Chipumuro, E., Cheung, F., Town, C.D. and Chen, X. (2008) *Sequencing and analysis of the gene-rich space of cowpea* BMC Genomics, **9:103**
- Xiong, T.C.**, Jauneau, A., Ranjeva, R. and Mazars, C. (2004) *Isolated plant nuclei as mechanical and thermal sensors involved in calcium signaling* Plant J., **40**, 12-21

### **Rat1 cells**

- Hurwitz, S.N.**, Nkosi, D., Conlon, M.M., York, S.B., Liu, X., Tremblay, D.C. and Meckes, Jr. D.G. (2017) *CD63 regulates Epstein-Barr virus LMP1 exosomal packaging, enhancement of vesicle production, and noncanonical NF- $\kappa$ B signaling* J. Virol., **91**: e02251-16

### **Retinal ganglion cells**

- Joyal, J-S.**, Nim, S., Zhu, T., Sitaras, N. et al (2014) *Subcellular localization of coagulation factor II receptor-like 1 in neurons governs angiogenesis* Nature Med., **20**, 1165-1173

### **Retinal pigment epithelial cells**

- Hyvönen, Z.**, Hämäläinen, V., Ruponen, M., Lucas, B., Rejman, J., Vercauteren, D., Demeester, J., De Smedt, S. and Braeckmans, K. (2012) *Elucidating the pre- and post-nuclear intracellular processing of 1,4-dihydropyridine based gene delivery carriers* J. Control. Release, **162**, 167–175

### **Shark tissues**

- Roa, J.N.** and Tresguerres, M. (2017) *Bicarbonate-sensing soluble adenylyl cyclase is present in the cell cytoplasm and nucleus of multiple shark tissues* Physiol. Rep., **5**: e13090

### **Smooth muscle cells**

- Lucero, H.A.**, Kintsurashvili, E., Marketou, M.E. and Gavras, H. (2010) *Cell signaling, internalization, and nuclear localization of the angiotensin converting enzyme in smooth muscle and endothelial cells* J. Biol. Chem., **285**, 5555-5568

### **Spleen**

- Chen, K.G.**, Valencia, J.C., Lai, B., Zhang, G., Paterson, J.K., Rouzard, F., Berens, W., Wincovitch, S.M., et al (2006) *Melanosomal sequestration of cytotoxic drugs contributes to the intractability of malignant melanomas* Proc. Natl. Acad. Sci. USA, **103**, 9903-9907
- Yamamoto, Y.**, Jones, K.A., Mak, B.C., Muehlenbachs, A. and Yeung, R.S. (2002) *Multicompartmental distribution of tuberous sclerosis gene products, hamartin and tuberin* Arch. Biochem. Biophys., **404**, 210-217

### **Testis**

- Ookawara, T.**, Kizaki, T., Takayama, E., Imazeki, N., Matsubara, O., Ikeda, Y., Suzuki, K., Ji, L.L., Tadakuma, T., Taniguchi, N. and Ohno, H. (2002) *Nuclear translocation of extracellular superoxide dismutase* Biochem. Biophys. Res. Commun., **296**, 54-61
- Yamamoto, Y.**, Jones, K.A., Mak, B.C., Muehlenbachs, A. and Yeung, R.S. (2002) *Multicompartmental distribution of tuberous sclerosis gene products, hamartin and tuberin* Arch. Biochem. Biophys., **404**, 210-217

### **Thymus**

**Ookawara, T.**, Kizaki, T., Takayama, E., Imazeki, N., Matsubara, O., Ikeda, Y., Suzuki, K., Ji, L.L., Tadakuma, T., Taniguchi, N. and Ohno, H. (2002) *Nuclear translocation of extracellular superoxide dismutase* Biochem. Biophys. Res. Commun., **296**, 54-61

### **Thyroid cancer tissue**

**Corces, M.R.**, Trevino, A.E., Hamilton, E.G., Greenside, P.G., Sinnott-Armstrong, N.A., Vesuna, S., Satpathy, A.T., Rubin, A.J., Montine, K.S. et al (2017) *An improved ATAC-seq protocol reduces background and enables interrogation of frozen tissues* Nat. Meth., **14**, 959-962

### **Vero cells**

**Botting, C.**, Lu, X. and Triezenberg, S.J. (2016) *H2AX phosphorylation and DNA damage kinase activity are dispensable for herpes simplex virus replication* Virol. J., **13**: 15

### **Xenopus**

**Amin, N.M.**, Greco, T.M., Kuchenbrod, L.M., Rigney, M.M., Chung, M-I., Wallingford, J.B., Cristea, I.M. and Conlon, F.L. (2014) *Proteomic profiling of cardiac tissue by isolation of nuclei tagged in specific cell types (INTACT)* Development, **141**, 962-973

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