

OptiPrep™ Reference List RC09

Pulmonary cells

- ◆ This Reference List provides a list of all the published papers relating to the purification of pulmonary cells, listed by cell type
- ◆ Within each cell type papers are listed alphabetically by first author
- ◆ Multiple entries from the same first author are listed chronologically.
- ◆ For a detailed methodology of the purification of these cells see OptiPrep™ Application Sheets C29 and C30.
- ◆ To aid identification of relevant publications key words in the titles are highlighted in light blue

Alveolar epithelial

Kosmider, B., Loader, J.E., Murphy, R.C. and Mason, R.J. (2010) *Apoptosis induced by ozone and oxysterols in human alveolar epithelial cells* Free Radical Biol. Med., **48**, 1513–1524

Alveolar Type I

Borok, Z., Liebler, J.M., Lubman, R.L., Foster, M.J., Zhou, B., Li, X., Zabski, S.M., Kim, K.-J. and Crandall, E.D. (2002) *Alveolar epithelial ion and fluid transport Na transport proteins are expressed by rat alveolar epithelial type I cells* Am. J. Physiol. Lung Mol. Physiol., **282**, L599-608

Mossel, E.C., Wang, J., Jeffers, S., Edeen, K.E., Wang, S., Cosgrove, G.P., Funk, C.J., Manzer, R., Miura, T.A., Pearson, L.D., Holmes, K.V. and Mason, R.J. (2008) *SARS-CoV replicates in primary human alveolar type II cell cultures but not in type I-like cells* Virology, **372**, 127-135

Yu, W.C.L., Chan, R.W.Y., Wang, J., Travanty, E.A., Nicholls, J.M., Peiris, J.S.M., Mason, R.J. and Chan, M.C.W. (2011) *Viral replication and innate host responses in primary human alveolar epithelial cells and alveolar macrophages infected with influenza H5N1 and H1N1 viruses* J. Virol., **85**, 6844-6855

Alveolar Type II

Epa, A.P., Thatcher, T.H., Pollock, S.J., Wahl, L.A., Lyda, E., Kottmann, R.M., Phipps, R.P. and Sime, P.J. (2015) *Normal human lung epithelial cells inhibit transforming growth factor- β induced myofibroblast differentiation via prostaglandin E2* PLoS One, 10: e0135266

Goetzman, E.S., Alcorn, J.F., Bharathi, S.S., Uppala, R., McHugh, K.J., Kosmider, B., Chen, R., Zuo, Y.Y., Beck, M.E., McKinney, R.W. et al (2014) *Long-chain acyl-CoA dehydrogenase deficiency as a cause of pulmonary surfactant dysfunction* J. Biol. Chem., **289**, 10668–10679

Ito, Y. and Mason, R.J. (2010) *The effect of interleukin-13 (IL-13) and interferon- γ (IFN- γ) on expression of surfactant proteins in adult human alveolar type II cells in vitro* Respir. Res., **11**, 157

Ito, Y., Correll, K., Schiel, J.A., Finigan, J.H., Prekeris, R., and Mason, R.J. (2014) *Lung fibroblasts accelerate wound closure in human alveolar epithelial cells through hepatocyte growth factor/c-Met signaling*. Am. J. Physiol. Lung Cell. Mol. Physiol., **307**, L94–L105,

Ito, Y., Correll, K., Zemans, R.L., Leslie, C.C., Murphy, R.C., Mason, R.J. (2015) *Influenza induces IL-8 and GM-CSF secretion by human alveolar epithelial cells through HGF/c-Met and TGF- α /EGFR signaling* Am. J. Physiol. Lung Cell Mol. Physiol. **308**: L1178–L1188

Kosmider, B., Messier, E.M., Chu, H.W. and Mason, R.J. (2011) *Human alveolar epithelial cell injury induced by cigarette smoke* PLoS One **6**: e26059

Lambot, L., Rodriguez, E.C., Houtteman, D., Li, Y., Schiffmann, S.N., Gall, D., and de Kerchove d'Exaerde, A. (2016) *Striatopallidal neuron NMDA receptors control synaptic connectivity, locomotor, and goal-directed behaviors* J. Neurosci., **36**, 4976–4992

Lin, C.R., Bahmed, K., Tomar, D., Marchetti, N., Criner, G.J., Bolla, S., Wilson, M.A., Madesh, M. and Kosmider, B. (2019) *The relationship between DJ-1 and S100A8 in human primary alveolar type II cells in emphysema*. Am. J. Physiol. Lung. Cell. Mol. Physiol., **317**, L791–L804

Manzer, R., Wang, J., Nishina, K., McConville, G. and Mason, R.J. (2006) *Alveolar epithelial cells secrete chemokines in response to IL-1 β and lipopolysaccharide but not to ozone* Am. J. Respir. Cell Mol., **34**, 158-166

- Messier, E.M.**, Bahmed, K., Tuder, R.M., Chu, H.W., Bowler, R.P. and Kosmider, B. (2013) *Trolox contributes to Nrf2-mediated protection of human and murine primary alveolar type II cells from injury by cigarette smoke* Cell Death Dis., 4: e573
- Miura, T.A.**, Wang, J., Holmes, K.V. and Mason, R.J. (2007) *Rat coronaviruses infect rat alveolar type I epithelial cells and induce expression of CXC chemokines* Virology, 369, 288-298
- Mossel, E.C.**, Wang, J., Jeffers, S., Edeen, K.E., Wang, S., Cosgrove, G.P., Funk, C.J., Manzer, R., Miura, T.A., Pearson, L.D., Holmes, K.V. and Mason, R.J. (2008) *SARS-CoV replicates in primary human alveolar type II cell cultures but not in type I-like cells* Virology, 372, 127-135
- Tan, L.H.**, Bahmed, K., Lin, C-R., Marchetti, N., Bolla, S., Criner, G.J., Kelsen, S., Madesh, M. and Kosmider, B. (2018) *The cytoprotective role of DJ-1 and p45 NFE2 against human primary alveolar type II cell injury and emphysema* Sci. Rep., 8: 3555
- Wang, J.**, Edeen, K., Manzer, R., Chang, Y., Wang, S., Chen, X., Funk, C.J., Cosgrove, G.P., Fang, X. and Mason, R.J. (2007) *Differentiated human alveolar epithelial cells and reversibility of their phenotype in vitro* Am. J. Respir. Cell Mol. Biol., 36, 661-668
- Wang, J.**, Oberley-Deegan, R., Wang, S., Nikrad, M., Funk, C.J., Hartshorn, K.L. and Mason, R.J. (2009) *Differentiated human alveolar type II cells secrete antiviral IL-29 (IFN- λ 1) in response to influenza A infection* J. Immunol., 182, 1296–1304
- Yu, W.C.L.**, Chan, R.W.Y., Wang, J., Travanty, E.A., Nicholls, J.M., Peiris, J.S.M., Mason, R.J. and Chan, M.C.W. (2011) *Viral replication and innate host responses in primary human alveolar epithelial cells and alveolar macrophages infected with influenza H5N1 and H1N1 viruses* J. Virol., 85, 6844-6855
- Zemski Berry, K. A.**, Murphy, R.C., Kosmider, B. and Mason, R.J. (2017) *Lipidomic characterization and localization of phospholipids in the human lung* J. Lipid Res., 58, 926–933

Human

- Bahmed, K.**, Boukhenouna, S., Karim, L., Andrews, T., Lin, J., Powers, R., Wilson, M.A., Lin, C-R., Messier, E. et al (2019) *The effect of cysteine oxidation on DJ-1 cytoprotective function in human alveolar type II cells* Cell Death Dis., 10: 638
- Bahmed, K.**, Lin, C.R., Simborio H., Karim L., Aksoy M., Kelsen S., Tomar D., Madesh M., Elrod J., et al (2019) *The role of DJ-1 in human primary alveolar type II cell injury induced by e-cigarette aerosol*. Am J Physiol Lung Cell Mol Physiol 317, L475–L485
- Correll, K.A.**, Edeen, K.E., Zemans, R.L., Redente, E.F., Serban, K.A., Curran-Everett, D., Edelman, B.L., Mikels-Vigdal, A. and Mason, R.J. (2019) *Transitional human alveolar type II epithelial cells suppress extracellular matrix and growth factor gene expression in lung fibroblasts* Am. J. Physiol. Lung Cell. Mol. Physiol., 317, L283–L294
- Kosmider, B.**, Mason, R.J. and Bahmed, K. (2018) *Isolation and characterization of human alveolar type II cells* In Lung Innate Immunity and Inflammation: Methods and Protocols, Methods in Mol. Biol., 1809, (ed. Alper, S., and Janssen, W.J.) Springer Science+Business Media, LLC, pp 83-90
- Lin, C.R.**, Bahmed, K., Tomar, D., Marchetti, N., Criner, G.J., Bolla, S., Wilson, M.A., Madesh, M. and Kosmider, B. (2019) *The relationship between DJ-1 and S100A8 in human primary alveolar type II cells in emphysema*. Am. J. Physiol. Lung. Cell. Mol. Physiol., 317, L791–L804

Rodent

- Cottage, C.T.**, Peterson, N., Kearley, J., Berlin, A., Xiong, X., Huntley, A., Zhao, W., Brown, C. et al (2019) *Targeting p16-induced senescence prevents cigarette smoke-induced emphysema by promoting IGF1/Akt1 signaling in mice* Commun. Biol., 2: 307
- Jansing, N.L.**, McClendon, J., Kage, H., Sunohara, M., Alvarez, J.R., Borok, Z. and Zemans, R.L. (2018) *Isolation of rat and mouse alveolar type II epithelial cells* In Lung Innate Immunity and Inflammation: Methods and Protocols, Methods in Mol. Biol., 1809, (ed. Alper, S, and Janssen, W.J.) Springer Science+Business Media, LLC, pp 69-82
- Lin, C.R.**, Bahmed, K., Tomar, D., Marchetti, N., Criner, G.J., Bolla, S., Wilson, M.A., Madesh, M. and Kosmider, B. (2019) *The relationship between DJ-1 and S100A8 in human primary alveolar type II cells in emphysema*. Am. J. Physiol. Lung. Cell. Mol. Physiol., 317, L791–L804

Emphysema

- Kosmider, B.**, Lin, C-R., Karim, L., Tomar, D., Vlasenko, L., Marchetti, N., Bolla, S., Madesh, M., Criner, G.J. and Bahmed, K. (2019) *Mitochondrial dysfunction in human primary alveolar type II cells in emphysema* EBioMed., 46, 305–316

Endothelial and epithelial cells

Pu, F.R., Manning, F.C.R., Brannigan, A.E. and Crosby, S.R. (2001) *Differential regulation of calcitonin secretion in normal and neoplastic pulmonary neuroendocrine cells in vitro* Exp. Lung Res., 27, 689-703

Fibroblasts

Waise, S., Parker, R., Rose-Zerilli, M.J.J., Layfield, D.M., Wood, O., West, J., Ottensmeier, C.H., Thomas, G.J. and Hanley, C.J. (2019) *An optimised tissue disaggregation and data processing pipeline for characterising fibroblast phenotypes using single-cell RNA sequencing* Sci. Rep., 9: 9580

Haematopoietic cells

Holmer, S.M., Evans, K.S., Asfaw, Y.G., Saini, D., Schell, W.A., Ledford, J.G., Frothingham, R., Wright, J.R., Sempowski, G.D. and Perfect, J.R. (2014) *Impact of surfactant protein D, interleukin-5, and eosinophilia on Cryptococcosis* Infect. Immun., 82, 83–693

Human lung/lymph node cells

Gibbings, S.L. and Jakubzick, C.V. (2018) *A consistent method to identify and isolate mononuclear phagocytes from human lung and lymph nodes* In Type 2 Immunity: Methods and Protocols, Methods in Mol. Biol., 1799, (ed. Reinhardt, R.L.), Springer Science+Business Media, LLC, pp 381-395

Leukocytes

Bolles, M., Deming, D., Long, K., Agnihothram, S., Whitmore, A., Ferris, M., Funkhouser, W., Gralinski, L., Totura, A., Heise, M. and Baric, R.S. (2011) *A double-inactivated severe acute respiratory syndrome coronavirus vaccine provides incomplete protection in mice and induces increased eosinophilic proinflammatory pulmonary response upon challenge* J. Virol., 85, 12201–12215

Low density cells

Majlessi, L., Sayes, F., Bureau, J-F., Pawlik, A., Michel, V., Jouvion, G., Huerre, M., Severgnini, M. et al (2017) *Colonization with Helicobacter is concomitant with modified gut microbiota and drastic failure of the immune control of Mycobacterium tuberculosis* Mucosal Immunol., 10, 1178-1189

Lymphoid cells

Akbay, E.A., Koyama, S., Carretero, J., Altabef, A., Tchaicha, J.H., Christensen, C.L., Mikse, O.R., Cherniack, A.D., Beauchamp, E.M., Pugh, T.J. et al. (2013) *Activation of the PD-1 pathway contributes to immune escape in EGFR-driven lung tumors* Cancer Discov., 3, 1355–1363

Ledford, J.G., Goto, H., Potts, E.N., Degan, S., Chu, H.W., Voelker, D.R., Sunday, M.E., Cianciolo, G.J., Foster, W.M. Kraft, M. and Wright, J.R. (2009) *SP-A preserves airway homeostasis during mycoplasma pneumoniae infection in mice* J. Immunol., 182, 7818–7827

Macrophages

Bordet, E., Maisonnasse, P., Renson, P., Bouguyon, E., Crisci, E., Tiret, M., Descamps, D., Bernelin-Cottet, C. et al (2018) *Porcine alveolar macrophage-like cells are pro-inflammatory pulmonary intravascular macrophages that produce large titers of porcine reproductive and respiratory syndrome virus* Sci. Rep., 8: 10172

Starr, A.E., Dan, T., Minhas, K., Shewen, P.E. and Coomber, B.L. (2004) *Potential involvement of gelatinases and their inhibitors in Mannheimia haemolytica pneumonia in cattle* Infect. Immun., 72, 4393-4400

Wang, J., Oberley-Deegan, R., Wang, S., Nikrad, M., Funk, C.J., Hartshorn, K.L. and Mason, R.J. (2009) *Differentiated human alveolar type II cells secrete antiviral IL-29 (IFN- λ 1) in response to influenza A infection* J. Immunol., 182, 1296–1304

Yu, W.C.L., Chan, R.W.Y., Wang, J., Travanty, E.A., Nicholls, J.M., Peiris, J.S.M., Mason, R.J. and Chan, M.C.W. (2011) *Viral replication and innate host responses in primary human alveolar epithelial cells and alveolar macrophages infected with influenza H5N1 and H1N1 viruses* J. Virol., 85, 6844-6855

Mononuclear phagocytes

Gibbings, S.L. and Jakubzick, C.V. (2018) *A consistent method to identify and isolate mononuclear phagocytes from human lung and lymph nodes* In Type 2 Immunity: Methods and Protocols, Methods in Mol. Biol., 1799, (ed. Reinhardt, R.L.), Springer Science+Business Media, LLC, pp 381-395

***Mycobacterium* infection**

Majlessi, L., Sayes, F., Bureau, J-F., Pawlik, A., Michel, V., Jouvion, G., Huerre, M., Severgnini, M. et al (2017) Colonization with *Helicobacter* is concomitant with *modified gut microbiota* and *drastic failure of the immune control* of *Mycobacterium tuberculosis* Mucosal Immunol., 10, 1178-1189

Myeloid cells

Ledford, J.G., Goto, H., Potts, E.N., Degan, S., Chu, H.W., Voelker, D.R., Sunday, M.E., Cianciolo, G.J., Foster, W.M. Kraft, M. and Wright, J.R. (2009) *SP-A preserves airway homeostasis during mycoplasma pneumoniae infection in mice* J. Immunol., 182, 7818–7827

Pleural effusion cells

Schweppe, R.E., Pozdeyev, N., Pike, L.A., Korch, C., Zhou, Q., Sams, S.B., Sharma, V., Pugazhenti, U. Raeburn, C. et al (2019) *Establishment and characterization of four novel thyroid cancer cell lines and PDX models expressing the RET/PTC1 rearrangement, BRAFV600E, or RASQ61R as drivers* Mol. Cancer Res., 17, 1036-1048

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