

Compresstome® References



References

Precisionary Instruments

Model & Organ System

Lung:
Precision-cut lung slices
Live lung slices
Respiratory research

Compresstome® References

1: Castro-Piedras I, Perez-Zoghbi JF. Hydrogen sulphide inhibits Ca²⁺ release through InsP₃ receptors and relaxes airway smooth muscle. *J Physiol*. 2013 Dec 1;591(23):5999-6015. 2: Eleftheriadis N, Neochoritis CG, Leus NG, van der Wouden PE, Dömling A, Dekker FJ. Rational Development of a Potent 15-Lipoxygenase-1 Inhibitor with in Vitro and ex Vivo Anti-inflammatory Properties. *J Med Chem*. 2015 Oct 8;58(19):7850-62. 3: Gallos G, Yocum GT, Siviski ME, Yim PD, Fu XW, Poe MM, Cook JM, Harrison N, Perez-Zoghbi J, Emala CW Sr. Selective targeting of the $\alpha 5$ -subunit of GABA receptors relaxes airway smooth muscle and inhibits cellular calcium handling. *Am J Physiol Lung Cell Mol Physiol*. 2015 May 1;308(9):L931-42. 4: Goldklang MP, Perez-Zoghbi JF, Trischler J, Nkyimbeng T, Zakharov SI, Shiomi T, Zelonina T, Marks AR, D'Armiento JM, Marx SO. Treatment of experimental asthma using a single small molecule with anti-inflammatory and BK channel-activating properties. *FASEB J*. 2013 Dec;27(12):4975-86. 5: Graham JG, Winchell CG, Kurten RC, Voth DE. Development of an Ex Vivo Tissue Platform To Study the Human Lung Response to *Coxiella burnetii*. *Infect Immun*. 2016 Apr 22;84(5):1438-45. 6: Hiorns JE, Bidan CM, Jensen OE, Gosens R, Kistemaker LE, Fredberg JJ, Butler JP, Krishnan R, Brook BS. Airway and Parenchymal Strains during Bronchoconstriction in the Precision Cut Lung Slice. *Front Physiol*. 2016 Jul 21;7:309. 7: Kuo CS, Krasnow MA. Formation of a Neurosensory Organ by Epithelial Cell Slithering. *Cell*. 2015 Oct 8;163(2):394-405. 8: Mukherjee S, Trice J, Shinde P, Willis RE, Pressley TA, Perez-Zoghbi JF. Ca²⁺ oscillations, Ca²⁺ sensitization, and contraction activated by protein kinase C in small airway smooth muscle. *J Gen Physiol*. 2013 Feb;141(2):165-78. 9: Ng-Blichfeldt JP, Alçada J, Montero MA, Dean CH, Griesenbach U, Griffiths MJ, Hind M. Deficient retinoid-driven angiogenesis may contribute to failure of adult human lung regeneration in emphysema. *Thorax*. 2017 Jan 13. pii: thoraxjnl-2016-208846. 10: Oenema TA, Maarsingh H, Smit M, Groothuis GM, Meurs H, Gosens R. Bronchoconstriction Induces TGF- β Release and Airway Remodelling in Guinea Pig Lung Slices. *PLoS One*. 2013 Jun 26;8(6):e65580. 11: Yim PD, Gallos G, Perez-Zoghbi JF, Trice J, Zhang Y, Siviski M, Sonett J, Emala CW Sr. Chloride channel blockers promote relaxation of TEA-induced contraction in airway smooth muscle. *J Smooth Muscle Res*. 2013;49:112-24.

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References



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Brain:
Fixed brain tissue
Immunohistochemistry
In-situ hybridization

4.) *Shank3* mutant mice display autistic-like behaviours and striatal dysfunction -Joao Peca paper!!! Email him for reference!

Nature magazine article – can not get full access – cited VF-300

5.) Oxygen regulation of breathing through an olfactory receptor activated by lactate – Andy Chang paper – email for reference (Nature 2015)

6.) Combining Lipophilic dye, *in situ* Hybridization, Immunohistochemistry, and Histology

Jeremy Duncan – Jove video! – try to get access to full paper

For serial brain sections we recommend the Compresstome VF-700 [microtome](#) (Precisionary Instruments Inc., Greenville, North Carolina) to obtain uniform section thickness. Frozen sections are less optimal due to greater dye leakage during the sectioning process ³.

Oxytocin enhances the inhibitory effects of diazepam in the rat central medial amygdala
Neuropharmacology, Volume 58, Issue 1, January 2010, Pages 62-68

D. Viviani. T. Terrettaz. F. Magara. R. Stoop

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Brain:
Live brain tissue
Electrophysiology
Patch-clamp
Imaging

7.) Activation of Metabotropic Glutamate Receptor 7 Is Required for Induction of Long-Term Potentiation at SC- CA1 Synapses in the Hippocampus
Rebecca Klar;

8.) Imaging Fast Calcium Currents beyond the Limitations of Electrode Techniques
Nadia Jaafari,^{1,2,3} Michel De Waard,^{1,3} and Marco Canepari¹

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Non-human primates

1.) Comparison of Vibratome and Compresstome sectioning of fresh primate lymphoid and genital tissues for *in situ* MHC-tetramer and immunofluorescence staining
Hadia M Abdelaal,
Hyeon O Kim,
Referenced for comparison of fresh and fixed tissue (highlighted in pdf)

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Tumor research

Tumor Model: Nature Paper

Solid stress and elastic energy as measures of tumour mechanopathology

Hadi t. nia^{1,3}, Hao liu^{1,2}, giorgio Seano¹, meenal datta^{1,3}, dennis Jones¹, nuh rahbari¹, Joao incio^{1,4}, Vikash P. chauhan¹, Keehoon Jung¹, John d. martin¹, Vasileios askoxylakis¹, timothy P. Padera¹, dai Fukumura¹, Yves Boucher¹, Francis J. Hornicek⁵, alan J. grodzinsky⁶, James W. Baish⁷, lance I. munn¹ and rakesh K. Jain^{1*}

1: Askoxylakis V, Ferraro GB, Kodack DP, Badeaux M, Shankaraiah RC, Seano G, Kloepper J, Vardam T, Martin JD, Naxerova K, Bezwada D, Qi X, Selig MK, Brachtel E, Duda DG, Huang P, Fukumura D, Engelman JA, Jain RK. Preclinical Efficacy of Ado-trastuzumab Emtansine in the Brain Microenvironment. *J Natl Cancer Inst.* 2015 Nov 7;108(2). pii: djv313. 2: Boldajipour B, Nelson A, Krummel MF. Tumor-infiltrating lymphocytes are dynamically desensitized to antigen but are maintained by homeostatic cytokine. *JCI Insight.* 2016 Dec 8;1(20):e89289. 3: Broz ML, Binnewies M, Boldajipour B, Nelson AE, Pollack JL, Erle DJ, Barczak A, Rosenblum MD, Daud A, Barber DL, Amigorena S, Van't Veer LJ, Sperling AI, Wolf DM, Krummel MF. Dissecting the tumor myeloid compartment reveals rare activating antigen-presenting cells critical for T cell immunity. *Cancer Cell.* 2014 Nov 10;26(5):638-52.