

Product Description

Smooth muscle is responsible for the contractility of hollow organs, such as blood vessels, the gastrointestinal tract, the bladder, and the uterus. The human esophagus contains three layers of muscle in its walls, the outer longitudinal and inner circular layers of the main muscular coat and the muscular layer of the mucosa. Visceral smooth muscle cells make up all three layers along the entire organ except for the most rostral few centimeters. Smooth muscle contraction is critical to peristalsis in the human esophagus and the contraction may be mediated by activation of phospholipase through increased intracellular Ca²⁺, G protein activation, and activation of PKCepsilon-dependent mechanisms [1]. Other in vitro studies have shown that cultured human esophageal smooth muscle cells (HESMC) express voltage-dependent Na(+) channels [2].

iXCells Biotechnologies provides high quality HESMC, which are isolated from human esophagus and cryopreserved at P1, with >0.5 million cells in each vial. HESMC express ±-smooth muscle actin and desmin and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fung. HESMC can further expand for 16 population doublings in Smooth Muscle Cell Growth Medium (Cat # MD-0034) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Human esophagus
Package Size	0.5 million cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Smooth Muscle Cell Growth Medium (Cat # MD-0034)

References

- [1] Cao, W., Chen, Q., Sohn, U. D., Kim, N., Kirber, M. T., Harnett, K. M., Behar, J., Biancani, P. (2001) Ca²⁺-induced contraction of cat esophageal circular smooth muscle cells. *Am J Physiol Cell Physiol.* 280(4):C980-92.
- [2] Deshpande, M. A., Wang, J., Preiksaitis, H. G., Laurier, L. G., Sims, S. M. (2002) Characterization of a voltage-dependent Na(+) current in human esophageal smooth muscle. *Am J Physiol Cell Physiol.* 283(4):C1045-55.

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