Product Description

The urinary bladder is a hollow organ made up of smooth muscle cells (SMC). The relaxation and contraction of urinary bladder smooth muscle allows the bladder to store and void urine, respectively. Phenotypic modulation of bladder SMC and the expression of inducible nitric oxide synthase are associated with various pathological conditions, including bladder dysfunction [1]. Studies have shown that hypoxia inhibits human bladder SMC proliferation [2] and bladder SMC differentiation is dependent on factors released from urothelial cells [3]. The secretory phenotype of the bladder SMC extracellular matrix can be altered by the frequency of mechanical deformation experienced by these cells. SMC proliferation is a major contributing factor to the development and progression of a variety of diseases. As a result, understanding SMC changes during the genesis and maintenance of disease is vital to the development of therapeutic approaches.

iXCells Biotechnologies provides high quality Human Bladder Smooth Muscle Cells (HBlSMC), which are isolated from human bladder tissue and cryopreserved at P1, with >0.5 million cells in each vial. HBISMC express ±-smooth muscle actin and desmin and are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fung. HBIMSC can further expand for 13 population doublings in Smooth Muscle Cell Growth Medium (Cat # MD-0034) under the condition suggested by iXCells Biotechnologies.

Product Details

Tissue	Human bladder tissue
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] Johansson, R. and Persson, K. (2004) Phenotypic modulation of cultured bladder smooth muscle cells and the expression of inducible nitric oxide synthase. Am J Physiol Regul Integr Comp Physiol 286(4):R642-8.
[2] Galvin, D. J., Watson, R. W., O'Neill, A., Coffey, R. N., Taylor, C., Gillespie, J. I., Fitzpatrick, J. M. (2004) Hypoxia inhibits human bladder smooth muscle cell proliferation: a potential mechanism of bladder dysfunction. Neurourol Urodyn 23(4):342-8.
[3] Liu, W., Li, Y., Hayward, S., Cunha, G. and Baskin, L. (2000) Diffusable growth factors induce bladder smooth muscle differentiation. In Vitro Cell Dev Biol Anim. 36(7):476-84.

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