

近期週期性拉伸應用於口腔細胞系統相關研究的文獻

Cell type	Device	Condition	References
human periodontal ligament cells (hPDLCs)	Homemade	10%-20% (6/24h)	J Ma et al. Arch Oral Biol, 2014
human periodontal ligament cells (hPDLCs)	Flexcell device	12%, 0.1Hz	Gene, 15;566(1):13-7, 2015
human periodontal ligament cells (hPDLCs)	FX-5000T	10%	PLoS One, 2014
human periodontal ligament cells (hPDLCs)	FX-5000T	20%, 0.1Hz	PLoS One, 2013

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Role of cyclic strain in the differentiation of MSCs

The microenvironment of cells not only contains biochemical factors that influence differentiation, but also exerts hemodynamic forces, such as cyclic strain.

➤ Cyclic strain forces can influence the differentiation of MSCs :

Stem cell type	Differentiation outcome	Condition	References
<ol style="list-style-type: none"> 1. Sheep BMMSCs 2. Human BMMSCs 3. Human ASCs 	Endothelial	<ol style="list-style-type: none"> 1. 1 Hz, 5% 2. 1 Hz, 10% 	<ol style="list-style-type: none"> 1. Engelmayr et al., 2006 2. O’Cearbhaill et al., 2008 3. Shojaei et al., 2013
<ol style="list-style-type: none"> 1. Human BMMSCs 2. Rat BMMSCs 	Smooth muscle cell	<ol style="list-style-type: none"> 1. 1 Hz, 5% 2. 1 Hz, 10% 	<ol style="list-style-type: none"> 1. Hamilton et al., 2004 2. Park et al., 2004 3. Nieponice et al., 2007 4. Ghazanfari et al., 2009 5. O’Cearbhaill et al., 2010
Cardiac progenitor cells	Cardiac myocyte	<ol style="list-style-type: none"> 1. 5% & 10% 	<ol style="list-style-type: none"> 1. Kristin M. et al., 2016

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近期週期性拉伸應用於循環系統相關研究的文獻

Cell type	Device	Condition	References
cardiomyocyte	Flexcell FX-2000	10 or 20%	PLoS One, 2015
human umbilical vein endothelial cells (HUVECs)	Flexcell	10%	Cell Biol Int., 2015
rat cardiac myoblasts H9c2 cells	Flexcell FX-2000	20%	Eur J Heart Fail., 2013
Endothelial cells	Flexcell	10 or 20%, 1Hz	Biotechnol Prog., 2014

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近期週期性拉伸應用於循環系統相關研究的文獻

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近期週期性拉伸應用於神經細胞系統相關研究的文獻

Cell type	Device	Condition	References
Neural stem and progenitor cell (NSPCs)	J-Flex device	10%	Sci Rep. , 17;5:8499, 2015 (neurons: 3 days, astrocytes: 7 days, oligodendrocytes: 5 or 7 days)
SH-SY5Y human neuroblastoma cells (ATCC, CRL-2266)	Flexcell device	10%, 0.25Hz (0.25 Hz, 120 min/d for 7 days)	Biores Open Access. ;2(3):212-6, 2013
Organotypic hippocampal slice cultures (OHSC)	Homemade	—	IRCOBI Conference 2012

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動態拉伸應用於肺細胞系統相關研究的文獻

Cell type	Device	Condition	References
Human pulmonary artery endothelial cells (HPAECs)	FX-4000T Flexcell	5 %	PLoS One, 2014
Human lung microvessel endothelial cells (ECs)	Flexcell device	5-18%	Microvasc Res., 2014
Human pulmonary artery endothelial cells (EC)	FX-3000T Flexcell	18%, 0.5 Hz, 4h	PLoS One, 2014
human periodontal ligament cells (hPDLCs)	FX-5000T	20%, 0.1Hz	PLoS One, 2013

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近期動態拉伸應用於肺泡細胞系統相關研究的文獻

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