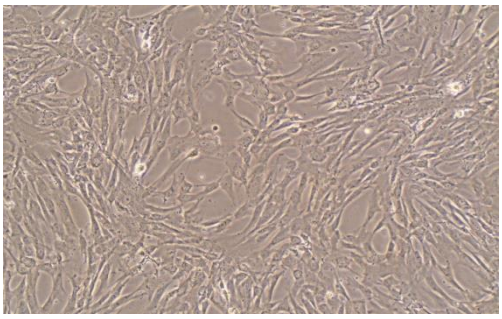
UCMSC Product Information

1	**General Details**	
	Cell Name	Umbilical Cord-derived Mesenchymal Stem Cell
	Description	Human Mesenchymal Stem Cells were isolated from umbilical cord Wharton's jelly of a healthy woman during childbirth and manufactured using a Good Manufacturing Practice (GMP) process
	Passage number	Passage 3 / Passage 5
	Number of Cells	$4X10^6$ cells/vial
	Culture Type	Adherent
	Culture Condition	37℃, 5% CO_2 incubator
	Culture Media	αMEM + 5% HPL +3 mM Glutamax
	Storage Condition	Liquid Nitrogen
	Shipping Condition	1 mL of Cryovial
	Cell morphology	
2	**Test Specification**	
	Cell Performance Testing	
	Cell Viability	>80%
	Chondrogenic, Osteogenic, Adipogenic differentiation potential	Positive
	Microbial Testing	
	Sterility	Negative
	Mycoplasma	Negative
	Endotoxin	<0.05 EU/mL
	Virus Testing	
	EBV, CMV, HHV-6, HHV-7, HHC-8, HLV-1, HLV-2, HAV, HCV, HBV, HIV-1, HIV-2, X-MuLV, retrovirus	Not detected
	Cell Surface Marker Testing	
	Positive markers (CD90, CD105, CD73, CD29, CD49e, CD44, CD166)	≥95%
	Negative markers (CD14, CD19, CD34, CD45, HLA-DR)	≤2%

3	**Protocol/Guidelines**	
	Cell Culture	**Cell Thawing and Seeding** 1. Thaw and seed cells at a density of 1,500 cells/cm^2 2. Expand cell cultures for 5-6 days until they have reach >80% confluency 3. On Day 1, perform complete media change (100%). On Day 4 after seeding, perform a 50% media change **Cell Expansion** 1. Subculture the cells at a density of 1,500 cells/cm^2 2. Expand cell cultures for 5-6 days until they have reach >80% confluency 3. On Day 3 and Day 6 after subculture, perform 50% media change **Cell Harvest** 1. Centrifuge the cells at 330 x g for 7 min at 18ºC 2. Resuspend the cell pellet in CryoStor®CS2 cryopreservation medium at concentration of $4X10^6$ cells/vial 3. Store the vial in a freezing container overnight at -80ºC before transferring it to liquid nitrogen
4	**Additional Information**	
	UCMSCs were manufactured from donated umbilical cord materials in the GMP Unit	