

TECHNICAL DATA SHEET

# PureStem<sup>®</sup> Progenitor ES-154

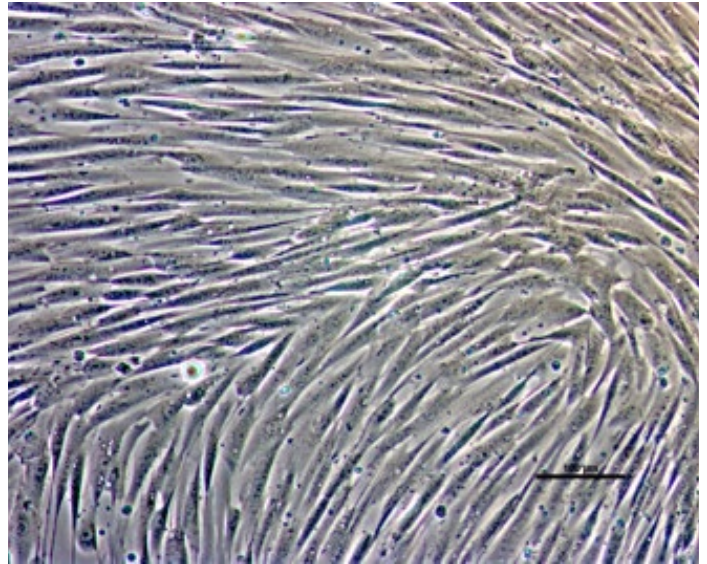
Catalog Number: ES-154

## OVERVIEW

PureStem Progenitor ES-154 expresses the markers of intermediate mesodermal progenitors of the kidney (Lusis et al, 2010) including: Wilms tumor 1 gene (WT1), nephro-nectin (NPNT), TSHZ2, SIX1, and distal HOX gene expression HOXA4, B8, C8.

Differentiation in micro-mass culture in the presence of TGFβ3 will induce expression of the neurotransmitter transporter (Gamma-Aminobutyric Acid) SLC6A12 (Rasola et al, 1995) and SALL1.

PureStem Progenitor ES-154 was derived from the registered parental hES cell line H9 (WA09) as described (West, M.D. et al, 2008).



## NOTES ON NOMENCLATURE

PureStem progenitors are named by embryologist and cell biologists based on fate mapping the progenitors' undifferentiated and differentiated gene expression using annotated genetic expression interpretations found on LifeMap Discovery<sup>™</sup> and classic embryology terminology. The following standardized system is used by BioTime, Inc. and/or all of its subsidiaries:

### Meso (Mesoderm):

**cor** (chordamesoderm: notochord); **prx** (paraxial or somatic mesoderm: head; somites; skeletal muscle; cartilage & IVD; dermis; tendons; endothelial cells); **int** (Intermediate: kidney; gonads); **latp** (Lateral Plate: circulatory system; body cavity; extra-embryonic tissues; Adipose; limb bones and cartilage)

### Ecto (Ectoderm):

**surf** (surface ectoderm: epidermis; hair; nails; subacous glands; olfactory epithelium; mouth (anterior pituitary, tooth enamel, cheek epithelium); lens, cornea)

### NCr (Neural Crest):

**pns** (peripheral nervous system); **end** (endocrine and paraendocrine); **pig** (pigment Cells); **fac** (facial cartilage and bone); **con** (connective tissue and stroma: corneal endothelium and stroma; tooth papille; dermis, smooth muscle, adipose tissue of skin head and neck; connective tissue of salivary, lachrymal, thymus, thyroid, and pituitary glands; connective tissue of smooth muscle in arteries of aortic arch origin)

### Endo (Endoderm):

**pnc** (pancreas); **prs** (prostate); **git** (GI tract); **lvr** (liver); **thy** (thyroid)

## PRODUCT INFORMATION

<b>Positive mRNA Markers:</b>	WT1, NPNT, TSHZ2, SLC6A12, SALL1, SIX1
<b>Contents:</b>	Vial contains >500,000 cells cryopreserved in 1 ml of FBS/10% DMSO
<b>Growth Medium:</b>	PureStem™ EPM k06      EM-1006
<b>Differentiation Conditions:</b>	Fourteen-day micro-mass culture in presence of TGFβ3. Call your Technical Service Representative for more information.
<b>Recommended Culture Conditions:</b>	Cells should be plated onto tissue culture grade polystyrene plastic coated with 0.1% gelatin. Following rapid thawing & slow dilution in final culture medium, the initial seeding density should be ~ 20,000 cells/cm <sup>2</sup> . Cells should be maintained at 37°C in a humidified incubator preferably with 10% CO <sub>2</sub> and 5% oxygen with media change at least twice a week. At confluence, split 1:3 for routine maintenance. Note: confluence for more than 2 days may lead to terminal differentiation.
<b>Population Doubling Time:</b>	Approximately 50 hours.
<b>Population Doubling:</b>	PureStem Progenitor ES-154, is sold at passage 12 (the original clonal isolate confluent in a 1.9 cm <sup>2</sup> well was P1), which corresponds to approximately 15 doublings since the first 1.9 cm <sup>2</sup> well and approximately 33 doublings since its original clonal plating. The line displays a finite lifespan in vitro, senescing at approximately 70 PD. When used properly this product is guaranteed to scale for a minimum of 10 population doublings.
<b>Sterility:</b>	The embryotic progenitor is negative for HIV (1, 2), HBV, HCV, EBV, bacteria, mycoplasma, and fungal contamination.
<b>Thaw Test Result:</b>	>50% viability, >25% attachment, growth to confluence, and maintenance of original morphologic appearance.
<b>Certificates of Analysis:</b>	Available on request
<b>Restrictions:</b>	Cells are for research use only. They are not for human use, and may not be used for commercial purposes. User is responsible for proper handling upon receipt.
<b>Manufacturer:</b>	BioTime, Inc.

## PRODUCT WARRANTY

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