

BMI-1 5 Cell Line

Catalogue number: 153585

Sub-type: Primary

Images:

Contributor

Inventor: Ian Sayers

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: BMI-1 5 Cell Line

Alternate name: Polycomb complex protein BMI-1, polycomb group RING finger protein 4; PCGF4; RING finger protein 51; RNF51; B cell-specific Moloney murine leukemia virus integration site 1; BMI-1; FLV12/PCGF4; Mo-MLV; Moloney murine leukemia virus; NHBEC; Normal Human Bronchial Epithelial Cells; pLVX-BMI-1 Cell Line: COPD, ALI; air-liquid interface

Class:

Conjugate:

Description: Primary Human bronchial epithelial cells when grown in vitro have a limited lifespan and begin to deviate both in phenotype and morphology, losing the plasticity required around passage 4 or 5, for air-liquid interface (ALI) differentiation. These Human bronchial epithelial cells expressing BMI-1 retain both viability and differentiation potential of wild-type human bronchial epithelium while importantly not demonstrating changes in cell karyotype. B lymphoma Moloney murine leukemia virus insertion region 1 homolog (BMI-1) is an oncogene which functions by regulating P16 and P19 cell cycle inhibitor genes and is also associated with erythroplakia and tongue cancer. BMI-1 is thought to repress, p16(Ink4a), a cyclin-dependent kinase inhibitor and tumor suppressor that induces cell cycle arrest at the Gap 1 phase. BMI-1 can therefore be used to delay cell senescence. The airway epithelium is a critical interface acting as a barrier to potential pathogens and extraneous particles, assisting in regulation of host defense mechanisms like the inflammatory response.

Purpose:

Parental cell:

Organism: Human

Tissue: Lung

Model: Extended Lifespan

Gender: Female

Isotype:

Reactivity:

Selectivity:

Host:

Immunogen:

Immunogen UNIPROT ID:

Sequence:

Growth properties:

Production details: Passage 2 heterogeneous cells were plated in a 6-well plate at 5×10^4 cells per well and grown overnight. Media was replaced with 800 μ l of media with 2 μ g/ml of polybrene and 6.25 μ l of lentivirus pLVX-Bmi-1 to give >90% transfection. The plates were incubated at 37°C for 6.5 h with gentle rocking and the media replaced after 2 hours. After 72 h, selection media containing 300 ng/mL puromycin was added and cells with antibiotic resistance after 6 days of selection were considered to...

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes: Cells were fixed for immunostaining, histology sectioning, and scanning electron microscopy after 28 days at ALI.

Target details

Target: BMI-1

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application:

Application notes: Donor details: Female, 60 years old, Caucasian, non-smoker and abstained from alcohol. Cells were fixed for immunostaining, histology sectioning, and scanning electron microscopy after 28 days at ALI.

Handling

Format: Frozen

Concentration:

Passage number:

Growth medium: Normal human bronchial epithelial cells were grown in a growth factor-supplemented medium and differentiated at ALI in bronchial epithelial differentiation medium.

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer:

Storage conditions: Liquid Nitrogen

Shipping conditions: Dry ice

Related tools

Related tools: BMI-1 4 Cell Line ; BMI-1 3 Cell Line ; BMI-1 1 Cell Line ; BMI-1 2 Cell Line ; BMI-1 6 Cell Line

References

References: Torr et al. 2016. Physiol Rep. 4(16):. PMID: 27558999. ; Expression of polycomb protein BMI-1 maintains the plasticity of basal bronchial epithelial cells.

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