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Product datasheet

Human ALDH18A1 (P5CS) knockout HEK-293T cell line ab266378

2 Images

Overview

Product name	Human ALDH18A1 (P5CS) knockout HEK-293T cell line
Description	ALDH18A1 KO HEK-293T cell line
Parental Cell Line	HEK293T
Organism	Human
Mutation description	Knockout achieved by using CRISPR/Cas9, 1 bp deletion in exon 2 and 1 bp insertion in exon 2
Passage number	<20
Knockout validation	Sanger Sequencing
Biosafety level	2
General notes	**Recommended control:** Human wild-type HEK293T cell line (ab255449). Please note a wild-type cell line is not automatically included with a knockout cell line order, if required please add recommended wild-type cell line at no additional cost using the code WILDTYPE-TMTK1. **Cryopreservation cell medium:** Cell Freezing Medium-DMSO Serum free media, contains 8.7% DMSO in MEM supplemented with methyl cellulose. **Culture medium:** DMEM (High Glucose) + 10% FBS **Initial handling guidelines:** Upon arrival, the vial should be stored in liquid nitrogen vapor phase and not at -80°C. Storage at -80°C may result in loss of viability. 1. Thaw the vial in 37°C water bath for approximately 1-2 minutes. 2. Transfer the cell suspension (0.8 mL) to a 15 mL/50 mL conical sterile polypropylene centrifuge tube containing 8.4 mL pre-warmed culture medium, wash vial with an additional 0.8 mL culture medium (total volume 10 mL) to collect remaining cells, and centrifuge at 201 x g (rcf) for 5 minutes at room temperature. 10 mL represents minimum recommended dilution. 20 mL represents maximum recommended dilution. 3. Resuspend the cell pellet in 5 mL pre-warmed culture medium and count using a haemocytometer or alternative cell counting method. Based on cell count, seed cells in an appropriate cell culture flask at a density of $2x10^4$ cells/cm^2. Seeding density is given as a guide only and should be scaled to align with individual lab schedules. 4. Incubate the culture at 37°C incubator with 5% CO_2. Cultures should be monitored daily. **Subculture guidelines:** All seeding densities should be based on cell counts gained by established methods. A guide seeding density of $2x10^4$ cells/cm^2 is recommended.

A partial media change 24 hours prior to subculture may be helpful to encourage growth, if required.
Cells should be passaged when they have achieved 80-90% confluence.
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Properties

Number of cells	1 x 10^6 cells/vial, 1 mL
Viability	~80%
Adherent /Suspension	Adherent
Tissue	Kidney
Cell type	epithelial
STR Analysis	Amelogenin X D5S818: 8, 9 D13S317: 12, 14 D7S820: 11 D16S539: 9, 13 vWA: 16, 19 TH01: 7, 9.3 TPOX: 11 CSF1PO: 11, 12
Mycoplasma free	Yes
Storage instructions	Shipped on Dry Ice. Store in liquid nitrogen.
Storage buffer	Constituents: 8.7% Dimethylsulfoxide, 2% Cellulose, methyl ether
Purity	Immunogen affinity purified

Target

Pathway	Amino-acid biosynthesis; L-proline biosynthesis; L-glutamate 5-semialdehyde from L-glutamate: step 1/2. Amino-acid biosynthesis; L-proline biosynthesis; L-glutamate 5-semialdehyde from L-glutamate: step 2/2.
Involvement in disease	Defects in ALDH18A1 are the cause of mental retardation-joint hypermobility-skin laxity with or without metabolic abnormalities (MRJHSL) [MIM:612652]. Clinical manifestations include microcephaly, progressive neurologic dysfunction, mental retardation, progeroid appearance, joint hypermobility, skin laxity and hyperelasticity, cataracts. Some patients manifest metabolic disturbances such as hyperammonemia, hypoornithinemia, hypocitrullinemia, hypoargininemia and hypoprolinemia.
Sequence similarities	In the N-terminal section; belongs to the glutamate 5-kinase family. In the C-terminal section; belongs to the gamma-glutamyl phosphate reductase family.
Cellular localization	Mitochondrion inner membrane.
Form	P5CS catalyzes the ATP- and NADPH-dependent conversion of L-glutamate to glutamic gamma-semialdehyde, which is the metabolic precursor for proline biosynthesis. There are 2 isoforms produced by alternative splicing.

Images

Sanger Sequencing - Human ALDH18A1 knockout HEK293T cell line (ab266378)

Allele-1: 1 bp deletion in exon 2

Sanger Sequencing - Human ALDH18A1 knockout HEK293T cell line (ab266378)

Allele-2: 1 bp insertion in exon 2.

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