abcam

Product datasheet

Human IHH knockout Caco 2 cell line ab277843

Overview

Product name	Human IHH knockout Caco 2 cell line
Parental Cell Line	Caco 2
Organism	Human
Passage number	<20
Biosafety level	1
General notes	**Recommended control:** Human wild-type Caco 2 cell line (ab275464). 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:** EMEM + 20% FBS **Initial handling guidelines:** Upon arrival, the vial should be stored in liquid nitrogen vapor phase and not at -80ºC. Storage at -80ºC may result in loss of viability. 1. Thaw the vial in 37ºC water bath 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 (Click here to view haemocytometer protocol) 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. This should allow for confluency within 48 hours. Seeding density is given as a guide only and should be scaled to align with individual lab schedules. 4. Incubate the culture at 37ºC 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 for confluency (80-90% confluence) within 48 hours. 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. Click here to view the Mammalian cell tissue culture protocol

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Properties

Number of cells	1 x 10^6 cells/vial, 1 mL
Viability	~90%
Adherent /Suspension	Adherent
Tissue	Colon
Cell type	epithelial
Disease	Adenocarcinoma
Gender	Male
Mycoplasma free	Yes
Storage instructions	Shipped on Dry Ice. Store in liquid nitrogen.
Storage buffer	Constituents: 8.7% DMSO, 2% Cellulose, methyl ether

Target

Function	Intercellular signal essential for a variety of patterning events during development. Binds to the patched (PTC) receptor, which functions in association with smoothened (SMO), to activate the transcription of target genes. Implicated in endochondral ossification: may regulate the balance between growth and ossification of the developing bones. Induces the expression of parathyroid hormone-related protein (PTHRP).
Tissue specificity	Expressed in embryonic lung, and in adult kidney and liver.
Involvement in disease	Defects in IHH are the cause of brachydactyly type A1 (BDA1) [MIM:112500]. BDA1 is an autosomal dominant disorder characterized by middle phalanges of all the digits rudimentary or fused with the terminal phalanges. The proximal phalanges of the thumbs and big toes are short. Defects in IHH are a cause of acrocapitofemoral dysplasia (ACFD) [MIM:607778]. ACFD is a disorder characterized by short stature of variable severity with postnatal onset. The most constant radiographic abnormalities are observed in the tubular bones of the hands and in the proximal part of the femur. Cone-shaped epiphyses or a similar epiphyseal configuration with premature epimetaphyseal fusion result in shortening of the skeletal components involved. Cone-shaped epiphyses were also present to a variable extent at the shoulders, knees, and ankles.
Sequence similarities	Belongs to the hedgehog family.
Post-translational modifications	The C-terminal domain displays an autoproteolysis activity and a cholesterol transferase activity. Both activities result in the cleavage of the full-length protein and covalent attachment of a cholesterol moiety to the C-terminal of the newly generated N-terminal fragment (N-product). The N-product is the active species in both local and long-range signaling, whereas the C-product has no signaling activity. Cholesterylation is required for N-product targeting to lipid rafts and multimerization. Palmitoylated. N-palmitoylation is required for N-product multimerization and full activity.
Cellular localization	Secreted > extracellular space. The C-terminal peptide diffuses from the cell and Cell membrane. The N-terminal peptide remains associated with the cell surface.

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