SANTA CRUZ BIOTECHNOLOGY, INC.

ALK-1 (H-150): sc-28976

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hereditary hemorrhagic telangiectasia (HHT) is an autosomal dominant disorder characterized by vascular abnormalities such as dilated vessels, hemorrhages, liver and lung congestion, and brain or heart ischemia. Mutations in two genes, Endoglin (also designated CD105) and ALK-1 (activin receptor-like kinase 1, also designated TGFβ superfamily RI), are responsible for HHT. Endoglin is mutated in HHT1, and ALK-1 is mutated in HHT2, both of which are thought to be caused by haploinsufficiency. Endoglin and ALK-1 are type III and type I members of the TGFβ receptor superfamily, respectively, that are expressed on vascular endothelial cells. Endoglin can only bind ligands of the TGFβ superfamily via association with the respective ligand binding receptors for TGFβ1, TGFβ3, Activin-A, BMP-2 and BMP-7. ALK-1 preferentially binds TGFβ1 and is expressed in bone marrow stromal cells, lung, brain, kidney and spleen.

CHROMOSOMAL LOCATION

Genetic locus: ACVRL1 (human) mapping to 12q13.13; Acvrl1 (mouse) mapping to 15 F2.

SOURCE

ALK-1 (H-150) is a rabbit polyclonal antibody raised against amino acids 31-180 mapping within an N-terminal extracellular domain of ALK-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ALK-1 (H-150) is recommended for detection of ALK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ALK-1 (H-150) is also recommended for detection of ALK-1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ALK-1 siRNA (h): sc-40212, ALK-1 siRNA (m): sc-40213, ALK-1 shRNA Plasmid (h): sc-40212-SH, ALK-1 shRNA Plasmid (m): sc-40213-SH, ALK-1 shRNA (h) Lentiviral Particles: sc-40212-V and ALK-1 shRNA (m) Lentiviral Particles: sc-40213-V.

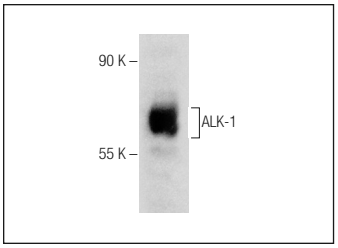
Molecular Weight of ALK-1: 53 kDa.

Positive Controls: human platelet extract: sc-363773.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ALK-1 (H-150): sc-28976. Western blot analysis of ALK-1 expression in human platelet extract.

SELECT PRODUCT CITATIONS

1. Ronaldson, P.T., et al. 2009. Transforming growth factor-β signaling alters substrate permeability and tight junction protein expression at the blood-brain barrier during inflammatory pain. J. Cereb. Blood Flow Metab. 29: 1084-1098.
2. Zeddou, M., et al. 2011. Differential signalling through ALK-1 and ALK-5 regulates leptin expression in mesenchymal stem cells. Stem Cells Dev. 21: 1948-1955.
3. Ronaldson, P.T., et al. 2011. Inflammatory pain signals an increase in functional expression of organic anion transporting polypeptide 1α4 at the blood-brain barrier. J. Pharmacol. Exp. Ther. 336: 827-839.
4. Leblanc, E., et al. 2011. BMP-9-induced muscle heterotopic ossification requires changes to the skeletal muscle microenvironment. J. Bone Miner. Res. 26: 1166-1177.

RESEARCH USE

For research use only, not for use in diagnostic procedures.