SANTA CRUZ BIOTECHNOLOGY, INC.

Endoglin (A-8): sc-376381

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. The human ALK-1 gene encodes two protein species which exist as a result of either glycosylation or alternative splicing events. ALK-1 preferentially binds TGFβ1 and is expressed in bone marrow stromal cells, lung, brain, kidney and spleen.

CHROMOSOMAL LOCATION

Genetic locus: ENG (human) mapping to 9q34.11.

SOURCE

Endoglin (A-8) is a mouse monoclonal antibody raised against amino acids 27-326 of Endoglin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Endoglin (A-8) is available conjugated to agarose (sc-376381 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376381 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376381 PE), fluorescein (sc-376381 FITC), Alexa Fluor® 488 (sc-376381 AF488), Alexa Fluor® 546 (sc-376381 AF546), Alexa Fluor® 594 (sc-376381 AF594) or Alexa Fluor® 647 (sc-376381 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376381 AF680) or Alexa Fluor® 790 (sc-376381 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Endoglin (A-8) is recommended for detection of Endoglin dimer under non-reducing conditions, and Endoglin monomer under reducing conditions of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Endoglin siRNA (h): sc-35302, Endoglin shRNA Plasmid (h): sc-35302-SH and Endoglin shRNA (h) Lentiviral Particles: sc-35302-V.

Molecular Weight of reduced Endoglin: 84 kDa.

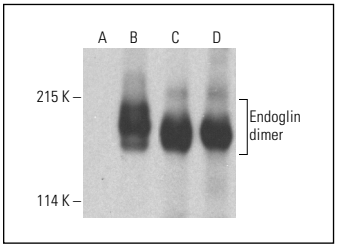
Molecular Weight of non reduced Endoglin: 130 kDa.

Positive Controls: Endoglin (h): 293T Lysate: sc-170141.

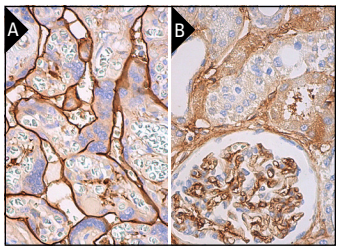
STORAGE

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

DATA



Endoglin (A-8): sc-376381. Western blot analysis of Endoglin expression in non-transfected: sc-117752 (**A**) and human Endoglin transfected: sc-170141 (**B**) 293T whole cell lysates and human spleen (**C**) and human kidney (**D**) tissue extracts under non-reducing conditions.



Endoglin (A-8): sc-376381. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane staining of trophoblastic cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Duan, C.L., et al. 2014. Tumor vascular homing Endgolin-targeted radioimmunotherapy in hepatocellular carcinoma. Tumour Biol. 35: 12205-12215.
2. Delcourt, N., et al. 2015. Targeted identification of sialoglycoproteins in hypoxic endothelial cells and validation in zebrafish reveal roles for proteins in angiogenesis. J. Biol. Chem. 290: 3405-3417.
3. Wang, J., et al. 2016. Relationship of liver X receptors α and Endoglin levels in serum and placenta with preeclampsia. PLoS ONE 11: e0163742.
4. Comsa, S., et al. 2020. The MSC-MCF7 duet playing tumor vasculogenesis and angiogenesis onto the chick embryo chorioallantoic membrane. In Vivo 34: 3315-3325.
5. de Oliveira Filho, S.A., et al. 2021. Angiogenesis pattern and H3.3 Histone mutation in aggressive and non-aggressive central giant cell lesions. Arch. Oral Biol. 130: 105218.
6. Ahmed, T., et al. 2022. EPDR1 is a non-canonical effector of Insulin-mediated angiogenesis regulated by an endothelial-specific TGF-β receptor complex. J. Biol. Chem. 298: 102297.
7. Wang, J., et al. 2023. Microcirculation surrounding end-stage human chronic skin wounds is associated with endoglin/CD146/ALK-1 expression, endothelial cell proliferation and an absence of p16Ink4a. Wound Repair Regen. 31: 321-337.
8. Batistella, E.A., et al. 2024. Microvascular density analysis and histological parameters of oral cancer progression. Oral Dis. 30: 2110-2121.

RESEARCH USE

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