

Endoglin (43A3): sc-21787

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 TGF β 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 TGF β receptor superfamily, respectively, that are expressed on vascular endothelial cells. Endoglin can only bind ligands of the TGF β superfamily via association with the respective ligand binding receptors for TGF β 1, TGF β 3, 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 TGF β 1 and is expressed in bone marrow stromal cells, lung, brain, kidney and spleen.

REFERENCES

1. Wu, X., et al. 1995. Cloning and characterization of the murine activin receptor like kinase-1 (ALK-1) homolog. *Biochem. Biophys. Res. Commun.* 216: 78-83.
2. Altomonte, M., et al. 1996. Expression and structural features of Endoglin (CD105), a transforming growth factor β 1 and β 3 binding protein, in human melanoma. *Br. J. Cancer* 74: 1586-1591.
3. Gallione, C.J., et al. 1998. Mutation and expression analysis of the Endoglin gene in hereditary hemorrhagic telangiectasia reveals null alleles. *Hum. Mutat.* 11: 286-294.
4. Klaus, D.J., et al. 1998. Novel missense and frameshift mutations in the activin receptor-like kinase-1 gene in hereditary hemorrhagic telangiectasia. *Hum. Mutat.* 12: 137.
5. Bourdeau, A., et al. 2000. Endoglin-deficient mice, a unique model to study hereditary hemorrhagic telangiectasia. *Trends Cardiovasc. Med.* 10: 279-285.

CHROMOSOMAL LOCATION

Genetic locus: ENG (human) mapping to 9q34.11; Eng (mouse) mapping to 2 B.

SOURCE

Endoglin (43A3) is a mouse monoclonal antibody raised against Endoglin of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Endoglin (43A3) is available conjugated to either phycoerythrin (sc-21787 PE) or fluorescein (sc-21787 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

Endoglin (43A3) is recommended for detection of Endoglin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Endoglin siRNA (h): sc-35302, Endoglin siRNA (m): sc-35303, Endoglin shRNA Plasmid (h): sc-35302-SH, Endoglin shRNA Plasmid (m): sc-35303-SH, Endoglin shRNA (h) Lentiviral Particles: sc-35302-V and Endoglin shRNA (m) Lentiviral Particles: sc-35303-V.

Molecular Weight of reduced Endoglin: 84 kDa.

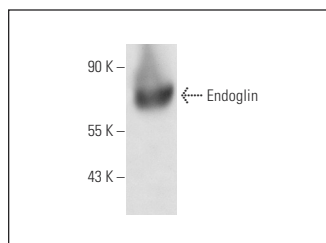
Molecular Weight of non-reduced Endoglin: 130 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, HEL 92.1.7 cell lysate: sc-2270 or mouse embryo extract: sc-364239.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Endoglin (43A3): sc-21787. Western blot analysis of Endoglin expression in mouse embryo tissue extract.

SELECT PRODUCT CITATIONS

1. Drago-Ferrante, R., et al. 2008. Low doses of paclitaxel potently induce apoptosis in human retinoblastoma Y79 cells by up-regulating E2F1. *Int. J. Oncol.* 33: 677-687.

STORAGE

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



See **Endoglin (P3D1): sc-18838** for Endoglin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.