SANTA CRUZ BIOTECHNOLOGY, INC.

# Endoglin (P3D1): sc-18838

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; Eng (mouse) mapping to 2 B.

## SOURCE

Endoglin (P3D1) is a mouse monoclonal antibody raised against 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 (P3D1) is available conjugated to agarose (sc-18838 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-18838 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18838 PE), fluorescein (sc-18838 FITC), Alexa Fluor® 488 (sc-18838 AF488), Alexa Fluor® 546 (sc-18838 AF546), Alexa Fluor® 594 (sc-18838 AF594) or Alexa Fluor® 647 (sc-18838 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18838 AF680) or Alexa Fluor® 790 (sc-18838 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Endoglin (P3D1) is recommended for detection of TGF-Receptor III complex (known also as Endoglin or CD105) of Endoglin 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 flow cytometry (1 µg per 1 x $10^6$ 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.

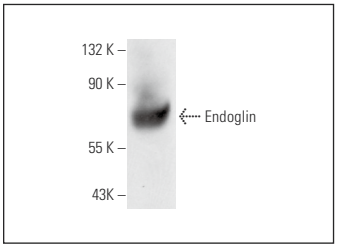
Molecular Weight of reduced Endoglin: 84 kDa.

Molecular Weight of non reduced Endoglin: 130 kDa.

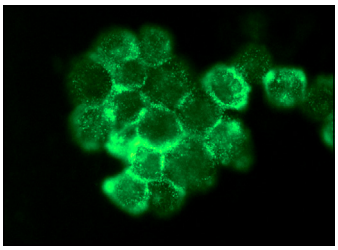
## STORAGE

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

## DATA




Endoglin (P3D1): sc-18838. Western blot analysis of Endoglin expression in mouse embryo tissue extract.



Endoglin (P3D1): sc-18838. Immunofluorescence staining of methanol-fixed HUV-EC-C cells showing membrane localization.

## SELECT PRODUCT CITATIONS


1. Tezcan, B., et al. 2010. Dose dependent effect of C-type natriuretic peptide signaling in glycosaminoglycan synthesis during TGFβ1 induced chondrogenic differentiation of mesenchymal stem cells. J. Mol. Histol. 41: 247-258.
2. Tsai, S.Y., et al. 2014. Intra-articular transplantation of porcine adipose-derived stem cells for the treatment of canine osteoarthritis: a pilot study. World J. Transplant. 4: 196-205.
3. Sivan, U., et al. 2016. Matrix-directed differentiation of human adipose-derived mesenchymal stem cells to dermal-like fibroblasts that produce extracellular matrix. J. Tissue Eng. Regen. Med. 10: E546-E558.
4. Colomb, F., et al. 2017. Galectin-3 interacts with the cell-surface glycoprotein CD146 (MCAM, MUC18) and induces secretion of metastasis-promoting cytokines from vascular endothelial cells. J. Biol. Chem. 292: 8381-8389.
5. Belame Shivakumar, S., et al. 2018. Pancreatic endocrine-like cells differentiated from human umbilical cords Wharton's jelly mesenchymal stem cells using small molecules. J. Cell. Physiol. 234: 3933-3947.
6. Sivadas, V.P., et al. 2019. Glutamic acid-based dendritic peptides for scaffold-free cartilage tissue engineering. Acta Biomater. 99: 196-210.
7. Hu, C., et al. 2020. Delivery of human stromal vascular fraction cells on nanofibrillar scaffolds for treatment of peripheral arterial disease. Front. Bioeng. Biotechnol. 8: 689.
8. Asgari Taei, A., et al. 2021. The conditioned medium of human embryonic stem cell-derived mesenchymal stem cells alleviates neurological deficits and improves synaptic recovery in experimental stroke. J. Cell. Physiol. 236: 1967-1979.


## RESEARCH USE

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