SANTA CRUZ BIOTECHNOLOGY, INC.

Penumbra (T-12): sc-138518

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Penumbra, also known as TSPAN33 (tetraspanin 33), PEN or proerythroblast new membrane, is a 283 amino acid multi-pass membrane protein that exhibits growth-suppressive activity and belongs to the tetraspanin (TM4SF) family. A disulfide-linked homodimer, Penumbra contains nine exons and shares 97% sequence identity with its mouse ortholog. Predominantly expressed in erythroblasts, Penumbra plays an important role in normal erythropoiesis and in erythroid progenitor differentiation. Penumbra promotes Notch activity and likely functions during the γ-secretase cleavage step. Penumbra is encoded by a gene that maps to human chromosome 7q32.1, a region strongly linked to cytogenetic abnormalities in myeloid malignancies. A 7q32 deletion is also a characteristic feature of splenic marginal zone lymphoma.

REFERENCES

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2. Heikens, M.J., et al. 2007. Penumbra encodes a novel tetraspanin that is highly expressed in erythroid progenitors and promotes effective erythropoiesis. Blood 109: 3244-3252.
3. Mangin, P.H., et al. 2009. CD9 negatively regulates integrin αIIbβ3 activation and could thus prevent excessive platelet recruitment at sites of vascular injury. J. Thromb. Haemost. 7: 900-902.
4. Huang, S., et al. 2010. The evolution of vertebrate tetraspanins: gene loss, retention, and massive positive selection after whole genome duplications. BMC Evol. Biol. 10: 306.
5. Romanska, H.M., et al. 2010. Tetraspanins in human epithelial malignancies. J. Pathol. 223: 4-14.
6. Watkins, A.J., et al. 2010. Splenic marginal zone lymphoma: characterization of 7q deletion and its value in diagnosis. J. Pathol. 220: 461-474.
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CHROMOSOMAL LOCATION

Genetic locus: TSPAN33 (human) mapping to 7q32.1; Tspan33 (mouse) mapping to 6 A3.3.

SOURCE

Penumbra (T-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Penumbra 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.

Blocking peptide available for competition studies, sc-138518 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Penumbra (T-12) is recommended for detection of Penumbra of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for Penumbra siRNA (h): sc-89430, Penumbra siRNA (m): sc-152163, Penumbra shRNA Plasmid (h): sc-89430-SH, Penumbra shRNA Plasmid (m): sc-152163-SH, Penumbra shRNA (h) Lentiviral Particles: sc-89430-V and Penumbra shRNA (m) Lentiviral Particles: sc-152163-V.

Molecular Weight of Penumbra: 32 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.