SANTA CRUZ BIOTECHNOLOGY, INC.

DPP10 (B-3): sc-398108

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dipeptidyl peptidases (DPPs) mediate regulatory activity of their substrates and have been linked to a variety of diseases including type two diabetes, obesity and cancer. DPPs have post-proline dipeptidyl aminopeptidase activity, cleaving Xaa-Pro dipeptides from the N-termini of proteins. DPPs can bind specific voltage-gated potassium channels and alter their expression and biophysical properties and may also influence T cells. DPP proteins include DPRP1, DPRP2, DPP3, DPP7, DPP10, DPPX and CD26. DPP10 (dipeptidyl-peptidase 10), also known as DPRP3 (dipeptidyl peptidase IV-related protein 3), DPL2 or DPPY, is a non-functional dipeptidyl peptidase which can bind to the potassium channels KV4.1 and KV4.2. It is a single-pass type II membrane protein expressed in spinal cord, adrenal glands, pancreas and brain tissues and may act as a modulator for cell surface expression and activity of KV4.1 and KV4.2.

REFERENCES

1. Qi, S.Y., et al. 2003. Cloning and characterization of dipeptidyl peptidase 10, a new member of an emerging subgroup of serine proteases. Biochem. J. 373: 179-189.
2. Jerng, H.H., et al. 2004. Modulation of Kv4.2 channel expression and gating by dipeptidyl peptidase 10 (DPP10). Biophys. J. 87: 2380-2396.
3. Jerng, H.H., et al. 2005. Multiprotein assembly of Kv4.2, KChIP3 and DPP10 produces ternary channel complexes with ISA-like properties. J. Physiol. 568: 767-788.
4. Zagha, E., et al. 2005. DPP10 modulates Kv4-mediated A-type potassium channels. J. Biol. Chem. 280: 18853-18861.
5. Takimoto, K., et al. 2006. Species and tissue differences in the expression of DPPY splicing variants. Biochem. Biophys. Res. Commun. 348: 1094-1100.
6. Chen, T., et al. 2006. Molecular characterization of a novel dipeptidyl peptidase like 2-short form (DPL2-s) that is highly expressed in the brain and lacks dipeptidyl peptidase activity. Biochim. Biophys. Acta 1764: 33-43.
7. Li, H.L., et al. 2006. DPP10 is an inactivation modulatory protein of Kv4.3 and Kv1.4. Am. J. Physiol., Cell Physiol. 291: C966-C976.

CHROMOSOMAL LOCATION

Genetic locus: DPP10 (human) mapping to 2q14.1; Dpp10 (mouse) mapping to 1 E2.3.

SOURCE

DPP10 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 155-182 within an internal region of DPP10 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398108 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

DPP10 (B-3) is recommended for detection of DPP10 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DPP10 siRNA (h): sc-62228, DPP10 siRNA (m): sc-62229, DPP10 shRNA Plasmid (h): sc-62228-SH, DPP10 shRNA Plasmid (m): sc-62229-SH, DPP10 shRNA (h) Lentiviral Particles: sc-62228-V and DPP10 shRNA (m) Lentiviral Particles: sc-62229-V.

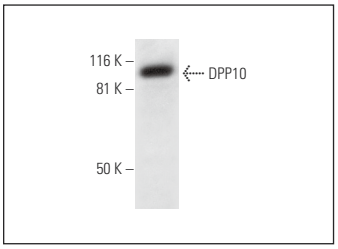
Molecular Weight of DPP10: 97 kDa.

Positive Controls: Y79 cell lysate: sc-2240.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DPP10 (B-3): sc-398108. Western blot analysis of DPP10 expression in Y79 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kollewe, A., et al. 2021. The molecular appearance of native TRPM7 channel complexes identified by high-resolution proteomics. Elife 10: e68544.

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.