SANTA CRUZ BIOTECHNOLOGY, INC.

PIEZO2 (T-14): sc-84765

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PIEZO2 (piezo-type mechanosensitive ion channel component 2), also known as C18orf30, C18orf58 or FAM38B, is a 2,752 amino acid multi-pass membrane protein containing 37 transmembrane domains. 4 isoforms of PIEZO2 exist produced by alternative splicing. PIEZO2 is a component of mechanically-activated cation channels, which quickly adapt mechanically activated currents in somatosensory neurons. This mechanotransduction is important for light-touch mechanosensation. Defects in the PIEZO2 gene results in Gordon syndrome, a rare autosomal-dominant disorder characterized by congenital contractors of the hands and feet and cleft palate, Marden-Walker syndrome, characterized by blepharophimosis and other facial phenotypes, and distal arthrogryposis type 5. The PIEZO2 gene is widely conserved, including in mouse, rat, canine, bovine, chicken, zebrafish, *drosophila* and *C. elegans*.

REFERENCES

1. Xiao, R. and Xu, X.Z. 2010. Mechanosensitive channels: in touch with Piezo. Curr. Biol. 20: R936-R938.
2. Coste, B., et al. 2010. Piezo1 and Piezo2 are essential components of distinct mechanically activated cation channels. Science 330: 55-60.
3. Coste, B. 2011. Feeling the pressure? Identification of two proteins activated by mechanical forces. Med. Sci. 27: 17-19.
4. Dubin, A.E., et al. 2012. Inflammatory signals enhance piezo2-mediated mechanosensitive currents. Cell Rep. 2: 511-517.
5. Coste, B., et al. 2013. Gain-of-function mutations in the mechanically activated ion channel PIEZO2 cause a subtype of Distal Arthrogryposis. Proc. Natl. Acad. Sci. USA 110: 4667-4672.
6. McMillin, M.J., et al. 2014. Mutations in PIEZO2 cause Gordon syndrome, Marden-Walker syndrome, and distal arthrogryposis type 5. Am. J. Hum. Genet. 94: 734-744.
7. Schrenk-Siemens, K., et al. 2015. PIEZO2 is required for mechanotransduction in human stem cell-derived touch receptors. Nat. Neurosci. 18: 10-16.

CHROMOSOMAL LOCATION

Genetic locus: PIEZO2 (human) mapping to 18p11.22.

SOURCE

PIEZO2 (T-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PIEZO2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84765 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PIEZO2 (T-14) is recommended for detection of PIEZO2 of 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PIEZO2 siRNA (h): sc-72689, PIEZO2 shRNA Plasmid (h): sc-72689-SH and PIEZO2 shRNA (h) Lentiviral Particles: sc-72689-V.

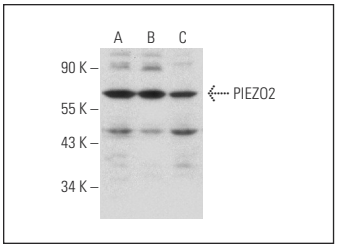
Molecular Weight of PIEZO2 isoforms 1-4: 318/311/81/321 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, Jurkat whole cell lysate:sc-2204 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PIEZO2 (T-14): sc-84765. Western blot analysis of PIEZO2 expression in Jurkat (**A**), HEK293 (**B**) and K-562 (**C**) whole cell lysates.

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.