

PJA1 (N-12): sc-241619

BACKGROUND

Ubiquitination is an important cellular degradation process requiring sequential reactions that are mediated by three enzymes: E1, E2 and E3. PJA1, also known as Praja1 and RING finger protein 70, is a 643 amino acid E2-dependent E3-ubiquitin ligase that is abundantly expressed in regions of the brain including cerebellum, medulla, cerebral cortex, putamen, occipital pole, temporal lobe and frontal lobe. Through interaction and activation with the E2-ubiquitin ligase UBC4, PJA1 mediates substrate-specific ubiquitination via its RING finger domain. The gene encoding PJA1 may be a candidate gene for X-linked mental retardations (MRXs), such as craniofrontonasal syndrome, due to its location on the X chromosome that is frequently found mutated in MRX patients. Overexpression of PJA1 in gastrointestinal cancers suggests that it may be responsible for the degradation of spectrin β II, a protein that exhibits anti-oncogenic activity. There are two named isoforms of PJA1 that exist as a result of alternative splicing events.

REFERENCES

- Mishra, L., Tully, R.E., Monga, S.P., Yu, P., Cai, T., Makalowski, W., Mezey, E., Pavan, W.J. and Mishra, B. 1997. Praja1, a novel gene encoding a RING-H2 motif in mouse development. *Oncogene* 15: 2361-2368.
- Yu, P., Chen, Y., Tagle, D.A. and Cai, T. 2002. PJA1, encoding a RING-H2 finger ubiquitin ligase, is a novel human X chromosome gene abundantly expressed in brain. *Genomics* 79: 869-874.
- Sasaki, A., Masuda, Y., Iwai, K., Ikeda, K. and Watanabe, K. 2002. A RING finger protein Praja1 regulates Dlx-5-dependent transcription through its ubiquitin ligase activity for the Dlx/Msx-interacting MAGE/Necdin family protein, Dlxin-1. *J. Biol. Chem.* 277: 22541-22546.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300420. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Mishra, L., Katuri, V. and Evans, S. 2005. The role of PRAJA and Elf in TGF β signaling and gastric cancer. *Cancer Biol. Ther.* 4: 694-699.
- Saha, T., Vardhini, D., Tang, Y., Katuri, V., Jogunoori, W., Volpe, E.A., Haines, D., Sidawy, A., Zhou, X., Gallicano, I., Schlegel, R., Mishra, B. and Mishra, L. 2006. RING finger-dependent ubiquitination by PRAJA is dependent on TGF β and potentially defines the functional status of the tumor suppressor Elf. *Oncogene* 25: 693-705.
- Wieland, I., Weidner, C., Ciccone, R., Lapi, E., McDonald-McGinn, D., Kress, W., Jakubiczka, S., Collmann, H., Zuffardi, O., Zackai, E. and Wieacker, P. 2007. Contiguous gene deletions involving EFNB1, OPHN1, PJA1 and EDA in patients with craniofrontonasal syndrome. *Clin. Genet.* 72: 506-516.

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PJA1 (human) mapping to Xq13.1.

SOURCE

PJA1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PJA1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-241619 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PJA1 (N-12) is recommended for detection of PJA1 of 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); non cross-reactive with PJA2.

PJA1 (N-12) is also recommended for detection of PJA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PJA1 siRNA (h): sc-91297, PJA1 shRNA Plasmid (h): sc-91297-SH and PJA1 shRNA (h) Lentiviral Particles: sc-91297-V.

Molecular Weight of PJA1: 71 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.

RESEARCH USE

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



Try **PJA1 (3E10): sc-517068**, our highly recommended monoclonal alternative to PJA1 (N-12).