

PJA1 siRNA (m): sc-152283

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 ubiquitization 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

1. Mishra, L., et al. 1997. Praja1, a novel gene encoding a RING-H2 motif in mouse development. *Oncogene* 15: 2361-2368.
2. Yu, P., et al. 2002. PJA1, encoding a RING-H2 finger ubiquitin ligase, is a novel human X chromosome gene abundantly expressed in brain. *Genomics* 79: 869-874.
3. Sasaki, A., et al. 2002. A RING finger protein Praja1 regulates Dlx5-dependent transcription through its ubiquitin ligase activity for the Dlx/Msx-interacting MAGE/Necdin family protein, Dlxin-1. *J. Biol. Chem.* 277: 22541-22546.
4. Mishra, L., et al. 2005. The role of PRAJA and ELF in TGF- β signaling and gastric cancer. *Cancer Biol. Ther.* 4: 694-699.

CHROMOSOMAL LOCATION

Genetic locus: Pja1 (mouse) mapping to X C3.

PRODUCT

PJA1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PJA1 shRNA Plasmid (m): sc-152283-SH and PJA1 shRNA (m) Lentiviral Particles: sc-152283-V as alternate gene silencing products.

For independent verification of PJA1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152283A, sc-152283B and sc-152283C.

RESEARCH USE

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

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PJA1 siRNA (m) is recommended for the inhibition of PJA1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PJA1 gene expression knockdown using RT-PCR Primer: PJA1 (m)-PR: sc-152283-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.