

PDE10A (E-20): sc-66503

BACKGROUND

PDE10A (phosphodiesterase 10A) is a striatum-enriched dual-substrate phosphodiesterase that participates in signal transduction by regulating the concentration of cyclic nucleotides. Localized to soluble cellular fractions within the cytoplasm, PDE10A can hydrolyze both cGMP and cAMP to the corresponding nucleoside 5-prime monophosphate, thereby eliminating cGMP- and cAMP-mediated intracellular signaling. Through its ability to hydrolyze cyclic nucleotides, PDE10A regulates the excitability of medium spiny neurons located in the striatum. PDE10A is expressed abundantly in the putamen and caudate nuclear regions of the testis and brain, with moderate expression observed in the pituitary gland, thalamus and cerebellum. PDE10A contains an N-terminal regulatory domain and a C-terminal catalytic domain which has two putative divalent metal binding sites. Two isoforms exist due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610652. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Hu, H., et al. 2004. Mutant Huntingtin affects the rate of transcription of striatum-specific isoforms of phosphodiesterase 10A. *Eur. J. Neurosci.* 20: 3351-3363.
3. Rodefer, J.S., et al. 2005. PDE10A inhibition reverses subchronic PCP-induced deficits in attentional set-shifting in rats. *Eur. J. Neurosci.* 21: 1070-1076.
4. Xie, Z., et al. 2006. Cellular and subcellular localization of PDE10A, a striatum-enriched phosphodiesterase. *Neuroscience* 139: 597-607.
5. Siuciak, J.A., et al. 2006. Genetic deletion of the striatum-enriched phosphodiesterase PDE10A: evidence for altered striatal function. *Neuropharmacology* 51: 374-385.
6. Siuciak, J.A., et al. 2006. Inhibition of the striatum-enriched phosphodiesterase PDE10A: a novel approach to the treatment of psychosis. *Neuropharmacology* 51: 386-396.
7. Coskran, T.M., et al. 2006. Immunohistochemical localization of phosphodiesterase 10A in multiple mammalian species. *J. Histochem. Cytochem.* 54: 1205-1213.
8. Bora, R.S., et al. 2008. Development of a cell-based assay for screening of phosphodiesterase 10A (PDE10A) inhibitors using a stable recombinant HEK-293 cell line expressing high levels of PDE10A. *Biotechnol. Appl. Biochem.* 49: 129-134.
9. Siuciak, J.A., et al. 2008. Behavioral characterization of mice deficient in the phosphodiesterase-10A (PDE10A) enzyme on a C57/Bl6N congenic background. *Neuropharmacology* 54: 417-427.

CHROMOSOMAL LOCATION

Genetic locus: PDE10A (human) mapping to 6q27; Pde10a (mouse) mapping to 17 A1.

SOURCE

PDE10A (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDE10A 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-66503 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE10A (E-20) is recommended for detection of Phosphodiesterase 10A 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).

PDE10A (E-20) is also recommended for detection of Phosphodiesterase 10A in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PDE10A siRNA (h): sc-62761, PDE10A siRNA (m): sc-62762, PDE10A shRNA Plasmid (h): sc-62761-SH, PDE10A shRNA Plasmid (m): sc-62762-SH, PDE10A shRNA (h) Lentiviral Particles: sc-62761-V and PDE10A shRNA (m) Lentiviral Particles: sc-62762-V.

Molecular Weight of PDE10A: 88 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.