

D1DR (C-20): sc-1434

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. β -adrenergic receptor binds to adrenaline activates adenylyl cyclase, while α 2-adrenergic receptor binds to adrenaline inhibits adenylyl cyclase. The dopamine receptors are divided into two classes, D1 and D2, which differ in their functional characteristics in that D1 receptors stimulate adenylyl cyclase while D2 receptors inhibit adenylyl cyclase activity. Five different subtypes of dopamine receptor have been described to date. D1DR and D5DR belong to the D1 subclass, while D2DR, D3DR and D4DR belong to the D2 subclass.

REFERENCES

1. Hausdorff, W.P., et al. 1990. Two kinases mediate agonist-dependent phosphorylation and desensitization of the β 2-adrenergic receptor. *Symp. Soc. Exper. Biol.* 44: 225-240.
2. Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
3. Hayes, G., et al. 1992. Structural subtypes of the dopamine D2 receptor are functionally distinct: expression of the cloned D2A and D2B subtypes in a heterologous cell line. *Mol. Endocrinol.* 6: 920-926.

CHROMOSOMAL LOCATION

Genetic locus: DRD1 (human) mapping to 5q35.2; Drd1a (mouse) mapping to 13 B1.

SOURCE

D1DR (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of D1DR 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-1434 P, (100 μ g 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.

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.

APPLICATIONS

D1DR (C-20) is recommended for detection of D1DR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

D1DR (C-20) is also recommended for detection of D1DR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for D1DR siRNA (h): sc-35159, D1DR siRNA (m): sc-35160, D1DR shRNA Plasmid (h): sc-35159-SH, D1DR shRNA Plasmid (m): sc-35160-SH, D1DR shRNA (h) Lentiviral Particles: sc-35159-V and D1DR shRNA (m) Lentiviral Particles: sc-35160-V.

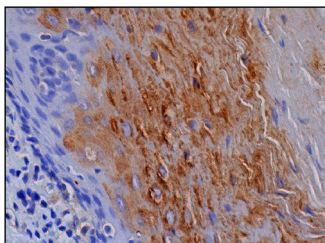
Molecular Weight of D1DR: 74 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, mouse brain extract: sc-2253 or HeLa whole cell lysate: sc-2200.

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) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



D1DR (C-20): sc-1434. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Ricci, A., et al. 1999. Dopamine D1-like receptor subtypes in human peripheral blood lymphocytes. *J. Neuroimmunol.* 96: 234-240.
2. Zou, S., et al. 2005. Protein-protein coupling/uncoupling enables dopamine D2 receptor regulation of AMPA receptor-mediated excitotoxicity. *J. Neurosci.* 25: 4385-4395.
3. Heine, C., et al. 2007. P2 receptor expression in the dopaminergic system of the rat brain during development. *Neuroscience* 149: 165-181.
4. Strell, C., et al. 2009. Divergent effects of norepinephrine, dopamine and substance P on the activation, differentiation and effector functions of human cytotoxic T lymphocytes. *BMC Immunol.* 10: 62.