

D2DR (F-19): sc-7523

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 bound to adrenaline activates adenylyl cyclase, while α 2-adrenergic receptor bound 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 of dopamine receptors.

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.
4. Senogles, S.E. 1994. The D2 dopamine receptor isoforms signal through distinct $G_{i\alpha}$ proteins to inhibit adenylyl cyclase. A study with site-directed mutant $G_{i\alpha}$ proteins. *J. Biol. Chem.* 269: 23120-23127.

CHROMOSOMAL LOCATION

Genetic locus: DRD2 (human) mapping to 11q23.2; Drd2 (mouse) mapping to 9 A5.3.

SOURCE

D2DR (F-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of D2DR 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-7523 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.

APPLICATIONS

D2DR (F-19) is recommended for detection of D2DR long and short forms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

D2DR (F-19) is also recommended for detection of D2DR long and short forms in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for D2DR siRNA (h): sc-35161, D2DR siRNA (m): sc-35162, D2DR shRNA Plasmid (h): sc-35161-SH, D2DR shRNA Plasmid (m): sc-35162-SH, D2DR shRNA (h) Lentiviral Particles: sc-35161-V and D2DR shRNA (m) Lentiviral Particles: sc-35162-V.

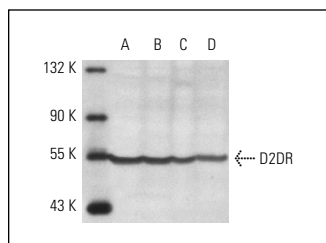
Molecular Weight of D2DR: 48/51 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or H4 cell lysate: sc-2408.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



D2DR (F-19): sc-7523. Western blot analysis of D2DR expression in SH-SY5Y (A) and H4 (B) whole cell lysates and rat (C) and mouse (D) brain extracts.

SELECT PRODUCT CITATIONS

1. Kruse, M.S., et al. 2003. Recruitment of renal dopamine 1 receptors requires an intact microtubulin network. *Pflugers Arch.* 445: 534-539.
2. Tanaka, S., et al. 2003. Autoantibodies against four kinds of neurotransmitter receptors in psychiatric disorders. *J. Neuroimmunol.* 141: 155-164.
3. Tanaka, S., et al. 2003. Autoantibodies against muscarinic cholinergic receptor in chronic fatigue syndrome. *Int. J. Mol. Med.* 12: 225-30.