SANTA CRUZ BIOTECHNOLOGY, INC.

D1DR (A-1): sc-518273

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Exp. 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.
5. Ogawa, N. 1995. Molecular and chemical neuropharmacology of Dopamine receptor subtypes. Acta Med. Okayama 49: 1-11.

CHROMOSOMAL LOCATION

Genetic locus: DRD1 (human) mapping to 5q35.2; Drd1 (mouse) mapping to 13 B1.

SOURCE

D1DR (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 320-446 of D1DR of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

D1DR (A-1) is available conjugated to agarose (sc-518273 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518273 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518273 PE), fluorescein (sc-518273 FITC), Alexa Fluor® 488 (sc-518273 AF488), Alexa Fluor® 546 (sc-518273 AF546), Alexa Fluor® 594 (sc-518273 AF594) or Alexa Fluor® 647 (sc-518273 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518273 AF680) or Alexa Fluor® 790 (sc-518273 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

D1DR (A-1) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

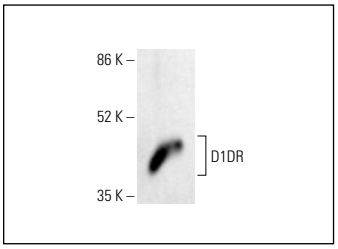
Suitable for use as control antibody for D1DR siRNA (h): sc-35159, D1DR siRNA (m): sc-35160, D1DR shRNA Plasmid (h): sc-35159-SH, D1DR shRNA Plasmid (m): sc-35160-SH, D1DR shRNA (h) Lentiviral Particles: sc-35159-V and D1DR shRNA (m) Lentiviral Particles: sc-35160-V.

Molecular Weight of D1DR: 74 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



D1DR (A-1): sc-518273. Western blot analysis of human recombinant D1DR fusion protein. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741.

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 for detailed protocols and support products.