SANTA CRUZ BIOTECHNOLOGY, INC.

D2DR (B-10): sc-5303

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

D2DR (B-10) is a mouse monoclonal antibody raised against amino acids 1-50 of dopamine receptor type 2 (D2DR) of human origin.

PRODUCT

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

D2DR (B-10) is available conjugated to agarose (sc-5303 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5303 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5303 PE), fluorescein (sc-5303 FITC), Alexa Fluor® 488 (sc-5303 AF488), Alexa Fluor® 546 (sc-5303 AF546), Alexa Fluor® 594 (sc-5303 AF594) or Alexa Fluor® 647 (sc-5303 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5303 AF680) or Alexa Fluor® 790 (sc-5303 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

D2DR (B-10) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for D2DR siRNA (h): sc-35161, D2DR siRNA (m): sc-35162, D2DR siRNA (r): sc-270273, D2DR shRNA Plasmid (h): sc-35161-SH, D2DR shRNA Plasmid (m): sc-35162-SH, D2DR shRNA Plasmid (r): sc-270273-SH, D2DR shRNA (h) Lentiviral Particles: sc-35161-V, D2DR shRNA (m) Lentiviral Particles: sc-35162-V and D2DR shRNA (r) Lentiviral Particles: sc-270273-V.

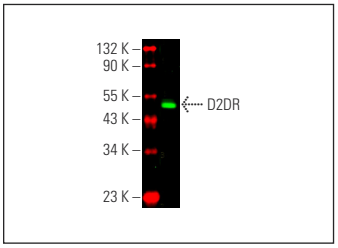
Molecular Weight of D2DR: 48/51 kDa.

Positive Controls: AtT-20/D16vF2 whole cell lysate: sc-364367.

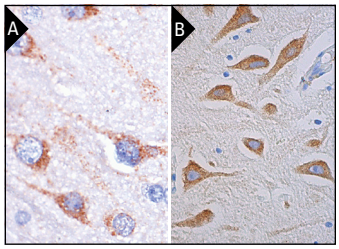
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



D2DR (B-10) Alexa Fluor® 680: sc-5303 AF680. Direct near-infrared western blot analysis of D2DR expression in AtT-20/D16vF2 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.



D2DR (B-10): sc-5303. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain tumor showing membrane and cytoplasmic staining (**A**). mmunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells (**B**).

SELECT PRODUCT CITATIONS

1. Nair, V.D. and Sealfon, S.C. 2003. Agonist-specific transactivation of phosphoinositide 3-kinase signaling pathway mediated by the dopamine D2 receptor. J. Biol. Chem. 278: 47053-47061.
2. Parillo, F., et al. 2014. Evidence for a dopamine intrinsic direct role in the regulation of the ovary reproductive function: *in vitro* study on rabbit corpora lutea. PLoS ONE 9: e104797.
3. Salti, A., et al. 2015. Social interaction reward decreases p38 activation in the nucleus accumbens shell of rats. Neuropharmacology 99: 510-516.
4. Matheus, F.C., et al. 2016. Temporal dissociation of striatum and prefrontal cortex uncouples anhedonia and defense behaviors relevant to depression in 6-OHDA-lesioned rats. Mol. Neurobiol. 53: 3891-3899.
5. Wang, J., et al. 2017. Dopamine and serotonin contribute to *Paecilomyces hepiali* against chronic unpredictable mild stress induced depressive behavior in Sprague Dawley rats. Mol. Med. Rep. 16: 5675-5682.
6. Lu, L., et al. 2018. REST overexpression in mice causes deficits in spontaneous locomotion. Sci. Rep. 8: 12083.
7. Servaes, S., et al. 2019. Neuroreceptor kinetics in rats repeatedly exposed to quinpirole as a model for OCD. PLoS ONE 14: e0213313.
8. Morales-Mulia, S., et al. 2020. Orexin-A up-regulates dopamine D2 receptor and mRNA in the nucleus accumbens Shell. Mol. Biol. Rep. 47: 9689-9697
9. Aslostovar, L., et al. 2021. Abnormal dopamine receptor signaling allows selective therapeutic targeting of neoplastic progenitors in AML patients. Cell Rep. Med. 2: 100202.

RESEARCH USE

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