

D5DR (SG4-D1b): sc-33661

BACKGROUND

D5DR (dopamine receptor D5, DR1B, DRD1L2) is a G protein-coupled receptor of the D1-like family that stimulates adenylyl cyclase and has a 10-fold higher affinity for dopamine than the D1 subtype. D5DR is present in neurons in the limbic regions of the brain. D5DR mRNA is most abundant in discrete cortical areas (layers II, IV and VI), the dentate gyrus and hippocampal subfields with low levels in the striatum. There are five major types of Dopamine receptors. All are G protein-coupled metabotropic receptors and can be excitatory or inhibitory to the post-synaptic neuron. D1 (D1A, D1C, D1D) and D5 (D1B) receptors belong to the D1-like receptor family. The D2, D3 and D4 receptors belong to the D2-like receptor family. Activation of the D1-like family receptors couples to increases in cAMP and is typically excitatory, while D2-like activation reduces cAMP and is typically inhibitory. Significant age-related decline in dopamine receptor mRNAs occurs in the hippocampus and entorhinal cortex.

CHROMOSOMAL LOCATION

Genetic locus: Drd5 (mouse) mapping to 5 B3.

SOURCE

D5DR (SG4-D1b) is a mouse monoclonal antibody raised against the last 118 C-terminal amino acids of D5DR of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

D5DR (SG4-D1b) is available conjugated to agarose (sc-33661 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33661 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33661 PE), fluorescein (sc-33661 FITC), Alexa Fluor® 488 (sc-33661 AF488), Alexa Fluor® 546 (sc-33661 AF546), Alexa Fluor® 594 (sc-33661 AF594) or Alexa Fluor® 647 (sc-33661 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33661 AF680) or Alexa Fluor® 790 (sc-33661 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

D5DR (SG4-D1b) is recommended for detection of D5DR of mouse and rat origin by Western Blotting (starting dilution 1:500, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

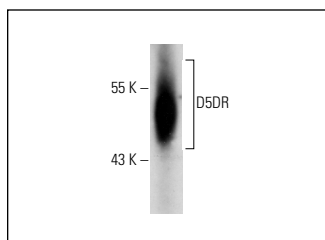
Molecular Weight of D5DR: 53 kDa.

Positive Controls: mouse brain extract: sc-2253.

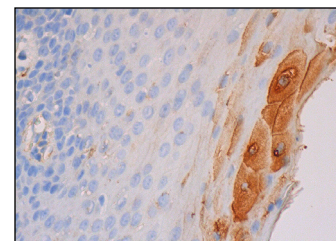
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



D5DR (SG4-D1b): sc-33661. Western blot analysis of D5DR expression in rat D5DR-transfected Sf9 cells.



D5DR (SG4-D1b): sc-33661. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Bavithra, S., et al. 2011. Polychlorinated biphenyl (PCBs)-induced oxidative stress plays a critical role on cerebellar dopaminergic receptor expression: ameliorative role of quercetin. *Neurotox. Res.* 21: 149-159.
- Selvakumara, K., et al. 2012. Impact of quercetin on PCBs (Aroclor-1254)-induced impairment of dopaminergic receptors expression in hippocampus of adult male Wistar rats. *Biomed. Prev. Nutr.* 3: 42-52.
- Regan, S.L., et al. 2019. Knockout of latrophilin-3 in Sprague-Dawley rats causes hyperactivity, hyper-reactivity, under-response to amphetamine, and disrupted dopamine markers. *Neurobiol. Dis.* 130: 104494.
- Wu, Y., et al. 2020. Dopamine uses the DRD5-ARRB2-PP2A signaling axis to block the TRAF6-mediated NFκB pathway and suppress systemic inflammation. *Mol. Cell* 78: 42-56.e6.
- Liu, Y., et al. 2021. Dopamine receptor-mediated binding and cellular uptake of polydopamine-coated nanoparticles. *ACS Nano* 15: 13871-13890.

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.

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