abcam

ab40656

Anti-DRD5 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: Whole serum
Form	Lyophilized
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human DRD5 aa 1-50 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P21918
Purity	Whole antiserum
Specificity	Cross-reacts with Human D5 Dopamine Receptor($_{Ac}$23-35) 100%, D5 Dopamine Receptor 80%. Does not cross react with other dopamine receptors (D1, D2, D3, D4).
Reconstitution	reconstitute with PBS, 10 mg/mL BSA at 0.1mL

Reactivity data

Flow Cyt

Expected

Species	Rat
Dilution info	-
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Human, Gorilla
Dilution info	-
Notes	-

WB

Expected

Species	Rat
Dilution info	-
Notes	Blocking with 5% goat or donkey serum significantly reduces background as compared to BSA or milk.

Predicted

Species	Human, Gorilla
Dilution info	-
Notes	-

ICC/IF

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Human, Gorilla
Dilution info	-
Notes	-

Target data

See full target information DRD5

Function	Dopamine receptor whose activity is mediated by G proteins which activate adenylyl cyclase.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	DRD5 also known as dopamine receptor D5 is a protein encoded by the DRD5 gene. It is part of the D1-like receptor family and selectively binds dopamine with high affinity. DRD5 is a G-protein coupled receptor (GPCR) involved in the activation of adenylyl cyclase which increases cyclic AMP levels in the cell. The protein has a mass of approximately 53 kDa and is mainly expressed in the central nervous system including regions such as the frontal cortex basal ganglia and limbic system.
Biological function summary	DRD5 plays an important role in modulating neurotransmission and influencing behavior and cognition. It interacts with other dopamine receptors and is not generally considered to form stable complexes but it can be part of transient signaling complexes during signaling events. Its function impacts motor control emotional response and cognitive functions such as learning and memory by modulating synaptic plasticity and neural circuit activity.
Pathways	DRD5 is an important component of dopamine signaling cascades particularly those impacting the cAMP-PKA pathway. This pathway influences neuronal excitability and synaptic transmission. DRD5 works alongside other dopamine receptors particularly dopamine receptor D1 (DRD1) to mediate these effects. The signaling through DRD5 and DRD1 plays a role in pathways regulating the reward system and motor control impacting behavior and movement.
Associated diseases and disorders	DRD5 has been implicated in neurological and psychiatric conditions. One example is schizophrenia where dysregulation of dopamine signaling involving DRD5 and DRD2 contributes to pathophysiology. Another condition is Parkinson's disease characterized by motor dysfunction where alterations in dopamine receptor activity including DRD5 impact disease progression. Understanding DRD5’s role provides insight into the mechanistic pathways of these disorders and potential therapeutic approaches.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

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