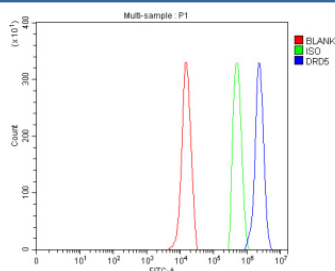


DRD5 Antibody / Dopamine receptor D5 (FY12217)

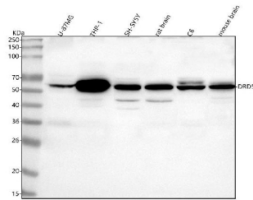
Catalog No.	Formulation	Size
FY12217	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P21918
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This DRD5 antibody is available for research use only.



Flow Cytometry analysis of U937 cells using anti-DRD5 antibody. Overlay histogram showing U937 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-DRD5 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of DRD5 using anti-DRD5 antibody. Lane 1: human U-87MG whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human SH-SY5Y whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat C6 whole cell lysates, Lane 6: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-DRD5 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The expected band size for DRD5 is at 53 kDa.

Description

DRD5 antibody detects Dopamine receptor D5, encoded by the DRD5 gene on chromosome 4p15.33. DRD5 antibody is commonly used in neuroscience, pharmacology, and psychiatry research. DRD5 is a G protein-coupled receptor (GPCR) belonging to the D1-like dopamine receptor family. It couples to stimulatory G proteins (Gs), leading to activation of adenylate cyclase and increased intracellular cAMP. DRD5 plays key roles in regulating movement, reward processing, learning, and behavior. Expression is enriched in the brain, particularly in limbic regions and the hippocampus, but it is also present in peripheral tissues including kidney and vasculature.

Structurally, DRD5 is a seven-transmembrane GPCR with extracellular ligand-binding loops and intracellular domains that couple to G proteins. Compared with DRD1, DRD5 has higher affinity for dopamine and distinct distribution patterns. Post-translational modifications, including phosphorylation and palmitoylation, modulate receptor trafficking and signaling. Isoforms generated by alternative splicing may alter receptor activity in tissue-specific contexts.

Functionally, DRD5 regulates neuronal excitability, synaptic plasticity, and memory formation. In hippocampal neurons, DRD5 activation enhances long-term potentiation, a process underlying learning. In striatal circuits, it integrates with DRD1 to regulate locomotion and motor control. Outside the CNS, DRD5 influences renal sodium excretion and vascular tone, linking dopamine signaling to blood pressure regulation. Researchers use DRD5 antibody to study dopaminergic signaling, neurological disease, and receptor pharmacology.

Clinically, DRD5 has been associated with neurological and psychiatric disorders, including schizophrenia, attention deficit hyperactivity disorder, and Parkinson's disease. Polymorphisms in DRD5 contribute to variability in behavioral traits and drug responses. Studies also implicate DRD5 in hypertension due to its renal functions. Because dopamine receptors are major therapeutic targets, DRD5 is under investigation for its contribution to dopaminergic drug responses. NSJ Bioreagents supplies DRD5 antibody as a validated tool for neuroscience and pharmacology research.

Experimentally, DRD5 antibody is used in western blotting to detect the ~53 kDa receptor, in immunofluorescence microscopy to study subcellular localization, and in immunohistochemistry to map receptor distribution in brain and peripheral tissues. Co-immunoprecipitation with DRD5 antibody helps identify interacting partners and signaling complexes.

Application Notes

Optimal dilution of the DRD5 antibody should be determined by the researcher.

Immunogen

E.coli-derived human DRD5 recombinant protein (Position: M1-H477) was used as the immunogen for the DRD5 antibody.

Storage

After reconstitution, the DRD5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

