Revision 1

Store at -20C

#71241

Dopamine D(2) Receptor/D2R (E1U8K) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F	M	Endogenous	Rabbit IgG	#P14416	1813

Product Usage Information

Application	Dilution
Immunofluorescence (Frozen)	1:50 - 1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Dopamine D(2) Receptor/D2R (E1U8K) Rabbit mAb recognizes endogenous levels of total dopamine D(2) receptor/D2R protein. Signal in the lamina propria of mouse small intestine was observed by Immunofluorescence and is presumed to be non-specific.

Species predicted to react based on 100% sequence homology

Human, Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro300 of human dopamine D(2) receptor/D2R protein.

Background

Dopamine is a neurotransmitter that plays important roles in the brain, particularly in dopamine pathways that control the motivational component of reward-motivated behavior. These behavioral outputs are generated by the basal ganglia via its interaction with multiple brain areas that modulate sensorimotor, emotional, and cognitive information (1). The brain's major dopaminergic input is into the striatum, a region of the basal ganglia composed of GABAergic medium spiny neurons (MSNs). Two major subpopulations of MSN exist in the striatum that are distinguished by the expression of dopamine receptor subtypes, the dopamine D(1) receptor subtype and the dopamine D(2) receptor subtype (D1R and D2R, respectively) (2,3). As a family of proteins, dopamine receptors are a class of G protein-coupled receptors (GPCRs) consisting of 5 subtypes that, upon initiation, drive downstream signaling cascades that modulate neuronal function (1). Dopamine receptors form homo- and hetero-multimers with subunits within their protein family but also with other GPCRs, including Adenosine Receptor A2a, suggesting that dopamine receptor activity might be finely tuned and altered under certain conditions (4). Dopamine receptors have been studied as a therapeutic target for several neuropsychiatric and developmental disorders, as well as neurodegenerative diseases, including Parkinson's disease (5-8). Dopamine receptors are also expressed outside of the brain and may have diverse functions beyond the central nervous system, including regulating innate and adaptive immunity (9).

Background References

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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

IF-F: Immunofluorescence (Frozen)

Cross-Reactivity Key

M: Mouse

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