

## Dopamine receptor Antibodies

### Anti-dopamine D3 receptor antibodies Cat # D3R-300P and D3R-301AP.

Five types of dopamine receptors designated as (dopamine D1-dopamine D5) have been characterized based on cDNA cloning, ligand binding and behavioral responses to antagonist/agonists. Molecular cloning of dopamine receptors have identified a family of closely related genes that encodes 5 proteins with some splice variants exhibiting high degree of amino acid homology (45%-65%) all in the molecular weight range of 40-60 kDa. Individual members of the dopamine receptor family have predicted secondary structure having 7 trans-membrane spanning helical domains characteristic features of G-protein-coupled receptors. Stimulation of dopamine D2 receptor led to G<sub>i</sub> coupled adenylate cyclase activation resulting in decrease in cAMP levels. Dopamine D2 receptors are expressed in two splice variant form (D2L and D2S), D2L is the major variant and has an exon expressing 29 amino acids. All dopamine receptors proteins are glycosylated at or near the C-terminus and are present on either cell surface or in intracellular sites. Some transporters exhibit dynamic trafficking between intracellular storage sites and plasma membranes in response to various stimuli. Dopamine receptors are believed to be associated with other proteins including members of other G-protein coupled receptors, resulting in a significant increase in their apparent molecular weight.

The dopamine receptor family-selective antibodies were generated against unique N or C-terminal cyclic peptides characteristics of a particular dopamine receptor.

FabGennix Inc. has generated highly specific rabbit anti-dopamine D2 receptor polyclonal antibodies utilizing unique N-terminal sequences (1). These antibodies have been fully characterized for cross reactivity

Receptor	Remarks (1)
D1 receptor	Localized mainly in brain, kidneys, adrenals.
D2 receptor	Brain (striatum, accumbens, VTA, etc), pituitary, has twosplice variants.
D3 receptor	Brain (striatum, accumbens, VTA, etc), pituitary, peripheral tissues
D4 receptor	CNS, pituitary, adrenals
D5 receptor	CNS, pituitary, adrenals, kidneys

with in the dopamine receptor family and with other cellular proteins. FabGennix Inc. has produced antibodies to multiple epitopes on the same protein that will facilitate studies utilizing interspecies cross reactivity.

*FabGennix Inc.* provides dopamine D2 Western blot positive control in "ready-to-use" SDS-PAGE sample buffer. The dopamine D2 receptor positive control appears as a diffuse band at 110 kDa and the receptor core protein at 49-55 kDa. These proteins co-migrate with rat brain dopamine D2 receptor protein from rat striatal membranes on a 10% SDS-PAGE. Striatal membranes were prepared following method describe earlier by Farooqui et; al., 1991 (1).

#### Ordering Information:

Catalog #	Description	Nature	Antigen/Positive control	Cross reactivity	Size/quantity
D3R-300P	Anti-dopamine D3 receptor Abs	Neat serum	Unique C-terminal peptide	R, M, H	100µl
D3R-301AP	Anti-dopamine D3 receptor Abs	Aff. Purf.	Unique N-terminal cyclic-peptide	R, M, H	175µl
P-D3R	Antigenic blocking peptide	peptide	Unique to C-terminal peptide	n/a	250 ug
PC-D3R	Western Blot positive control	proteins	Solubilized in Laemmli's buffer with BME.	n/a	For 5 appl.

rat; M = mouse; H = humans; appl = applications

Antigen: Synthetic peptide from the near C-terminal loop of the D3 receptor. Peptide seq: cqachvpselyrattwgy, was further modified to achieve higher antigenicity and specificity. Peptide sequence: (cqa chv spe lyr att wgy)

Applications: ELISA: Antibody dilution 1:50,000 for ELISA or DOT blot with solubilized hippocampal plasma membranes.

W.B: Antibody dilution 1:1000-1:1500 for WB using PC-D3R samples.

IMM: 2 ul of D3R-301AP will immunoprecipitate 65-80% dopamine recombinant D2 receptor protein from COS1 cells.

IHC: n.d

CFM: n.d.

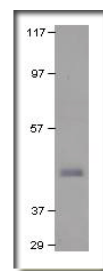
Reactivity: The antibodies (D3R-301AP) label D3 receptor protein in PC-D3R samples and in pituitary sdmaples.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with 0.02% sodium azide. For long-term storage of antibodies, store at -20°C. FabGennix Int. Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DilUbuffer). Working solutions of antibodies in DilUbuffer should be filtered through 0.45µm filter after every use for long-term storage.

#### References:

- Farooqui S. M. Hamdi A., Brock J., Prasad C. J. Neurochem 57;1363-369, 1991.
- Sakata M., Farooqui S. M., Prasad C Mol. Brain Research 575, 309-314, 1992.
- Jeff W. B., Farooqui S. M., Hamdi A., Prasad C. Brain Research, 578; 244-250, 1992
- Farooqui S. M. Life Sciences, 55; 1887-1893, 1994.
- Farooqui S. M. and Prasad C. Life Science 51; 1509-1516, 1992.

Figure: Western blot using D3R-301AP;  
Lane 1, PC-D3R; lane 2, MWM



**\*Note:** Do not heat or boil D3R-PC samples. After thawing at room temperature, this product is "ready-to-use" for electrophoresis. Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

**\* For users who may require large amounts of dopamine receptor antibodies, please enquire about bulk material discounts.**

**This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.**

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