ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Dopamine $D2_L$ Receptor (D2LR)

Cat. # D2R12-P	Rat $D2R_L$ Receptor Control Peptide	**SIZE**: 100 ug
Cat. # D2R12-S	Rabbit Anti-Rat $D2R_L$ Antiserum # 2	**SIZE**: 100 ul
Cat. # D2R12-A	Rabbit Anti-Rat $D2R_L$ Ig G # 2 (affinity pure)	**SIZE**: 100 ug

Dopamine is an endogenous catecholamine that influences many cellular activities, including behavior, hormone synthesis and release, blood pressure and intracellular ion transport. A family of at least 5 Dopamine Receptors (DR) genes, D1-D5, have been identified based upon the amino acid identity, pharmacological specificity and effector responses. DR have been classified into either the D1-like (D1, D1B, and D5) or D2-like (D2, D3, and D4). The two isoforms of D2R, D2 long (D2L) and short D2S), are encoded by splice variants of a single gene and differ only by the presence of an additional 29 AA in the intracellular domain 3 of the D2 long form. It may play a role in the coupling of the receptor to G-proteins. All members of this family have similar structure and contain 7 putative transmembrane domains. A given cell or tissue may express more than one DR. Specific radioligands do not exist that can differentiate between these DR. Therefore, specific antibodies are needed to distinguish, localize, and document changes in DR levels in cells and tissues under various normal and pathological conditions.

Dopamine D2 receptor is known to exist in the short ($D2_S$) and the long ($D2_L$)forms that are encoded by splice variants of a single gene and differ only by the presence of an additional 29 amino acid in the intracellular, cytoplasmic loop 3 (1). D2L receptor is a 446 aa, G-protein coupled, and transmembrane receptor protein

Source of Antigen, Antibodies

Antigen	27aa peptide of rat D2RL ; **Designated (D2R12-P or control peptide).** **Epitope location** ~ N-terminal, Cytoplasmic
Ab Host/type	Rabbit, polyclonal, Unpurified antiserum (**cat #D2R12-S**) Aff pure IgG (**cat #D2R12-A**)
2ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique)..

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry: not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml.

Specificity & Cross-reactivity

The 27 AA rat $D2R_L$ peptide was found only in the D2 long form. No significant sequence homology is seen with other dopamine receptors (D1, D2 short, and D3-D5). The 27 AA rat $D2R_L$ peptide shows sequence homology of 96% with human/ bovine/ dog, 64% with Xenopus D2L receptors. Antibodies generated to the rat sequence have been shown to recognize the canine D2R (2). Antibody crossreactivity with D2L receptors from various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site).

General References:

Dal Toso et (1989) EMBO J 8, 4025; Grandy DK et (1989) PNAS 86, 9762; Monsama FJ et al (1990) Nature 342, 926; Giros B et (1989) Nature 342, 923; Boundy, VA et al (1993) Mol Pharmacol. 43, 666-676; Sakata, M et al (1992) Brain Res. 575, 309-314; Farooqui, SM (1991) J Neurochem. 57, 1363-1369; Farooqui, SM et al (1992) BBRC 184, 661-667; Brock, J et al (1992) Brain Res. (1992) 578, 244-250; Farooqui, SM et al (1992) Life. Sci. 51, 1509-1516.

Citations of ADI's antibodies for DR (see updated list at: The web site)

*This product is for In vitro research use only.

Related material available from ADI

Antibodies D1/D2/D3/D4 and Dopamine Transporter and Serotonin Transporter

D2R12-S-A-P 71218S

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