ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Dopamine D1A Receptor (D1R)

□ Cat. # D1R12-P	Rat D1A Receptor Control Peptide #2	**SIZE**: 100 ug
□ Cat. # D1R12-S	Rabbit Anti-Rat D1A Antiserum # 2	**SIZE**: 100 ul
□ Cat. # D1R12-A	Rabbit Anti-Rat D1A IgG #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.

Source of Antigen, Antibodies

Antigen	9-aa peptide of rat D1R ; **Designated (D1R12-P or control peptide /blocking peptide**) conjugated to KLH. Epitope location ~ C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**D1R12**-S) and IgG, purified over antigen-agarose (Cat # **D1R12**-A)
2-Ab	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
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

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

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

Storage

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

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

Stability: 6-12 months at –20ºC or below.
Shipping: 4ºC 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 ECL. (see published refs using this antibody in 2).

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: We recommend the use of affinity purified antibody at 2-10 ug/ml. (see published refs using this antibody in 2).

Specificity & Cross-reactivity

The 9 AA D1R12-P peptide showed no significant sequence homology with other dopamine receptors (D1B, D2-D5). It has sequence homology of 88% with human, and 77% with pig. D1a receptors (1-3). Antibody crossreactivity with D1A 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: Monsama FJ et al (1990) PNAS 87, 6723-6727; Zhou, QY et al (1990) Nature 347, 76-80; Zhou QY et al (1992) J Neurochem. 59, 1875-7883; O'Dowd, BF et al (1990) FEBS Lett. 262, 8-12. Huang, Q (1992) PNAS 89, 11988-11992; Deary A et (1990) Nature 347, 72; Sunahara RK et (1990) Nature, 347, 80; Ohara K et (1993) Neuropharmacol. 8, 131.

(2) Citations of ADI's Antibodies (see web site for updated list)

Beheray, S, 2000, Kidney Intl. 58, 712 WB,
Banday AA, 2004, Am J Physiol Renal Physiol, 287: 109 - 116 WB,
Marwaha A, 2004, Am J Physiol Renal Physiol, 286: 451 – 457, WB,
Banday AA, 2003, Hypertension, 41, 1353-1358 WB,
Umrani DN, 2002, Hypertension 40: 880 - 885 WB,
Sutoo D 2003, Brain Research, 980, 24-30, IHC

*This product is for In vitro research use only.

D1R12-S-A-P 71218S

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