ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Dopamine D4 Receptor (D4R)

Cat. # D4R12-P	Human D4 Receptor Control Peptide # 2	**SIZE**: 100 ug
Cat. # D4R12-S	Rabbit Anti-Human D4 Antiserum # 2	**SIZE**: 100 ul
Cat. # D4R12-A	Rabbit Anti-Human D4 IgG # 2 (aff 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.

Human D4 receptor is a 467 aa, G-protein coupled, and transmembrane receptor protein.

Source of Antigen, Antibodies

Antigen	17-aa peptide of Human D4R ; **Designated (D4R12-P or control peptide /blocking peptide**) conjugated to KLH. **Epitope location** ~ N-terminus, Extracellular
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**D4R12**-S) and IgG, purified over antigen-agarose (Cat # **D4R12**-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 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

Human D4R12-P peptide is conserved 100% in monkey and chimps, and 57% with mouse and rat D4R receptors. D4r12-P has no significant sequence homology with other dopamine receptors (D1, D2, D3 or D5). Antibody crossreactivity with D4R 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: Van Tol HH et al (1992) Nature 358, 149-152; Van Tol HH et al (1992) Nature 350, 610-614; Livingstone, CD et al (1992) Biochem. J. 287, 277-282; Seeman , P et al (1994) Am J med gentet. 54, 384-390; O'Malley, KL et al (1992) New Biol. 4, 137-146; Fishburn CS et al (1995) FEBS Lett. 361, 215-219.

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

D4R12-S-A-P 71218S

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