ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Natural Resistance-Associated Macrophage Protein (Nramp2) Antibodies

Cat. # NRAMP22-P	Human NRAMP2 (with-IRE) Control Peptide # 2	**SIZE**: 100 ug
Cat. # NRAMP22-S	Rabbit Anti-Human NRAMP2 (with-IRE) antiserum # 2	**SIZE**: 100 ul
Cat. # NRAMP22-A	Rabbit Anti-Human NRAMP2 (with-IRE) IgG # 2 (aff pure)	**SIZE**: 100 ug

Natural resistance to infection with unrelated intracellular parasite such as Mycobacteria, Salmonella, and Leishmania is controlled by a single gene that encodes a macrophage-specific membrane protein designated as Natural Resistance-Associated Macrophage Protein (**Nramp1**). Recently a second member of NRAMP family, termed **NRAMP2/DMT/DCT1 (Divalent Metal ion Transporter 1 or Divalent Cation Transporter 1)**, has been identified (human, rat and mouse 568 aa, ~65% identity with NRAMP1). Unlike NRAMP1, NRAMP2 expression is more ubiquitous and has been detected in most tissues. It is dramatically up-regulated by iron starvation in the intestine. **NRAMP2** gene produces two alternatively spliced transcripts generated by alternative use of two 3' exons encoding distinct C-termini of the protein as well as distinct 3' untranslated regions (UTRs). Interestingly, one Nramp2 mRNA contains an iron-responsive element (IRE) in its 3'UTR. The IRE is an RNA secondary structure present in the 5'- or the 3'-UTR of animal mRNAs encoding proteins involved in iron metabolism. The second Nramp2 splice isoform (**without-IRE, isoform II**) encodes a protein in which the C-terminal 18-aa of the IRE form (**with IRE**, **isoform I**) are replaced by a novel 25-aa segment and codes for a distinct 3' UTR lacking the IRE. The two isoforms are differentially localized and regulated in GI tract and kidney.

Source of Antigen and Antibodies

Antigen	17-aa peptide from **human RELM-alpha (1)**; **Designation (#NRAMP22-P, control/blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NRAMP22**-S) and IgG, purified over antigen-agarose (Cat # **NRAMP22**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 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 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 -20OC and powder at 4oC or -20oC..
Long-term: at –20C 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 neat serum and 1-10 ug/ml for affinity pure antibody using ECL 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 & Immunofluorescence: Not tested. Affinity purified antibody at 5-20 ug/ml in paraformaldehyde fixed sections of tissues may be tested.

Specificity & Cross-reactivity

The human NRAMP22-P control peptide sequence is 88% conserved in monkey NRAMP2 with IRE. This sequence is absent in NRAMP2 without IRE. No significant sequence homology exist with NRAMP1 or NRAMP2 from mouse or rat.. Antibody cross-reactivity in various species has not been established. 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: Gunshin H et al (1997) Nature 388, 482; Fleming MD (1998) PNAS 95, 1148; Kishi F (1997) Mol Immunol. 6, 224; Gruenshield S (1995) Genomics 25, 514; Fleming MD et al (1997) Nature Genet. 16, 383; Canonne-Hergaux F (1999) Blood 93, 4406 (review).

2. Citations for ADI Antibodies (see updates at the web site)

Roth JA, 2000, J. Neurosci. 2000 20: 7595-7601
Moos T 2004, Journal of Neurochemistry 88, 233-245,WB, IHC
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*This product is for In vitro research use only.

Related material available from ADI

Antibodies NRAMP1/2, MTP1, Tf, Tfr,. And Defensins
NRAMP22-S-A-P 71223A

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