ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Natural Resistance-Associated Macrophage Protein (Nramp2) Antibodies

□ Cat. # NRAMP21-P	Rat NRAMP2 (with-IRE) Control Peptide # 1	**SIZE**: 100 ug
□ Cat. # NRAMP21-S	Rabbit Anti-Rat NRAMP2 (with-IRE) antiserum # 1	**SIZE**: 100 ul
□ Cat. # NRAMP21-A	Rabbit Anti-rat NRAMP2 (with-IRE) IgG # 1 (aff pure)	**SIZE**: 100 ul

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** (slc11a2) 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 **rat NRAMP2 (**gene accession **# O54902, refs 1)**; **Designation (# NRAMP21-P, control/blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NRAMP21**-S) and IgG, purified over antigen-agarose (Cat # **NRAMP21**-A). Supplied in PBS/0.1%/0/01% azide. Based upon specific antigen ELISA, antibody conc at A450=1.00 is ~0.5-1 mg/ml.
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 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
□ 100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA+0.1% azide
Reconstitute powder in PBS

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5
Reconstitute powder in PBS

Storage

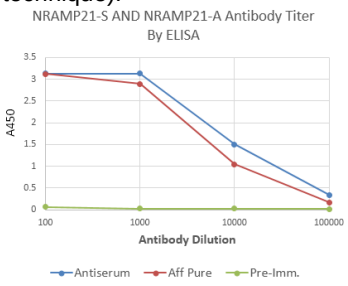
Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

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: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1000-1:5000 for neat serum and 1:200-:1000 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 (1:10K-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Affinity purified antibody at 5-20 ug/ml in paraformaldehyde fixed sections of tissues may be tested.

Specificity & Cross-reactivity

Rat NRAMP21-P control peptide sequence is 100% conserved in mouse NRAMP2 with IRE. This sequence is absent in NRAMP2 without IRE. No significant sequence homology exists with NRAMP1. 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 et al (1998) PNAS 95, 1148; Kishi F et al (1997) Mol Immunol. 6, 224; Gruenshield S et al (1995) Genomics 25, 514;

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

*This product is for In vitro research use only.

Related material available from ADI
Antibodies NRAMP1/2, MTP1, Tf/Tfr, ferritin, Defensins ½

NRAMP21-S-A-P-NRAMP-Antibody	180108AC

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