ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Natural Resistance-Associated Macrophage Protein (Nramp1) Antibodies

Cat. # NRAMP12-P	Mouse NRAMP1 Control Peptide # 2	**SIZE**: 100 ug
Cat. # NRAMP12-S	Rabbit Anti-Mouse NRAMP1 antiserum # 2	**SIZE**: 100 ul
Cat. # NRAMP12-A	Rabbit Anti-Mouse NRAMP1 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**). Naturally occurring and experimentally induced mutations at Nramp1 abrogate natural resistance to infection. Polymorphic variants at the human NRAMP1 locus are associated with differential susceptibility of humans to tuberculosis and leprosy. NRAMP1 is expressed in the lysosomal compartment of monocytes and macrophages, lungs, and spleen. It is induced in response to lymphokines and bacterial products. After phagocytosis, Nramp1 is targeted to the membrane of the microbe-containing phagosome, where it may modify the intraphagosomal milieu to affect microbial infection. Although the physiological role of Nramp1 is unclear, structural predictions suggest that Nramp1 encodes the prototypic member of a transporter family. **NRAMP1** (human 550 aa, chromosome 2q35; mouse 548 aa) protein is highly hydrophobic integral membrane glycoproteins composed of 12-transmembrane (TM) domains that possess several structural characteristics of ion channels and transporters. Both N and C-termini are predicted to be cytoplasmic.

Source of Antigen and Antibodies

Antigen	21-aa peptide from **mouse** NRAMP1 **(1)**; **Designation (#NRAMP12-P, control/blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NRAMP12**-S) and IgG, purified over antigen-agarose (Cat # **NRAMP12**-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 21 AA mouse NRAMP12-P control peptide sequence is 59% conserved in red deer, bison, ovine, bovine, 57% in human NRAMP1. No significant sequence homology exist with NRAMP2. Antibody cross-reactivity in various species has not been studied. 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: Celier M et al (1994) J. Exp med. 180, 1741-1752; Kishi F et al (1995) Immunol. Lett. 47, 93-96; Kihsi F et al (1994) BBRC 204, 1074-1080; Blackwell JM et al (1995) Mol. Med. 1, 194-205; Liu J et al (1995) Am. J. Hum. Genet. 56, 845-853; Barton CH et al (1994) J Exp. Med. 179, 1683-1687; Govoni G et al (1995) Genomics 27, 9-19; Vidal SM et al (1993) Cell 469-485; Cannon-Hergaux F et al (2000) Proc. Assoc. Am. Phys. 111, 283-289 (review), Barton CH et al (1999) J. Leukoc. Biol. 66, 752-762 (review).

*This product is for In vitro research use only.

Related material available from ADI
Antibodies NRAMP1/2, MTP1, Tf, TfR, Ferritin, Defensins

NRAMP12-S-A-P 71223A

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