10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TAP1 Rabbit pAb

Catalog # AP98875

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q03518
Other Accession	Q03518
Reactivity	Rat
Predicted	Human, Mouse, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	80965
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TAP1
Epitope Specificity	501-600/808
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the ABC transporter superfamily. ABCBfamily. MHC peptide exporter (TC 3.A.1.209) subfamily. Contains 1 ABC transmembrane type-1 domain. Contains 1 ABC transporter domain.
SUBUNIT	Heterodimer of TAP1 and TAP2. Interacts with Epstein-Barrvirus BNLF2a. Interacts with PSMB5 and PSMB8.
DISEASE	Bare lymphocyte syndrome 1 (BLS1) [MIM:604571]: A HLAclass I deficiency. Contrary to bare lymphocyte syndromes type 2and type 3, which are characterized by early-onset severe combinedimmunodeficiency, class I antigen deficiencies are not accompaniedby particular pathologic manifestations during the first years oflife. Systemic infections have not been described. Chronicbacterial infections, often beginning in the first decade of life,are restricted to the respiratory tract. Note=The disease is causedby mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The membrane-associated protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intra-cellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the MDR/TAP subfamily. Members of the MDR/TAP subfamily are involved in multidrug resistance. The protein encoded by this gene is involved in the pumping of degraded cytosolic peptides across the endoplasmic reticulum into the membrane-bound compartment where class I molecules assemble. Mutations in this gene may be associated with ankylosing spondylitis, insulin-dependent diabetes mellitus, and celiac disease.

Additional Information

Gene ID	6890
Other Names	ABC17; ABCB2; APT1; D6S114E; MHC1D1; PSF-1; PSF1; RING4; TAP1*0102N; TAP1N; Cim; Tap2; TAP1_HUMAN; TAP1; ATP-binding cassette sub-family B member 2; Peptide supply factor 1; Peptide transporter PSF1 (PSF-1); Peptide transporter TAP1; Peptide transporter involved in antigen processing 1; Really interesting new gene 4 protein (RING4); 7.4.2.14; Y3; TAP1_RAT; Mtp1; transporter 1, ATP binding cassette subfamily B member; transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TAP1 {ECO:0000303|PubMed:10605026, ECO:0000312|HGNC:HGNC:43}
Function	ABC transporter associated with antigen processing. In complex with TAP2 mediates unidirectional translocation of peptide antigens from cytosol to endoplasmic reticulum (ER) for loading onto MHC class I (MHCI) molecules (PubMed:25377891, PubMed:25656091). Uses the chemical energy of ATP to export peptides against the concentration gradient (PubMed:25377891). During the transport cycle alternates between 'inward-facing' state with peptide binding site facing the cytosol to 'outward-facing' state with peptide binding site facing the ER lumen. Peptide antigen binding to ATP-loaded TAP1-TAP2 induces a switch to hydrolysis-competent 'outward-facing' conformation ready for peptide loading onto nascent MHCI molecules. Subsequently ATP hydrolysis resets the transporter to the 'inward facing' state for a new cycle (PubMed:11274390, PubMed:25377891, PubMed:25656091). Typically transports intracellular peptide antigens of 8 to 13 amino acids that arise from cytosolic proteolysis via IFNG-induced immunoproteasome. Binds peptides with free N- and C-termini, the first three and the C-terminal residues being critical. Preferentially selects peptides having a highly hydrophobic residue at position 3 and hydrophobic or charged residues at the C-terminal anchor. Proline at position 2 has the most destabilizing effect (PubMed:11274390, PubMed:7500034, PubMed:9256420). As a component of the peptide loading complex (PLC), acts as a molecular scaffold essential for peptide-MHCI assembly and antigen presentation (PubMed:1538751, PubMed:25377891, PubMed:26611325).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Note=The transmembrane segments seem to form a pore in the membrane
Tissue Location	Highly expressed in professional APCs monocytes and dendritic cells as well as in lymphocyte subsets T cells, B cells and NK cells.

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