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TAP1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6252a

Product Information

Application	IHC-P, WB, E
Primary Accession	Q03518
Other Accession	Q96CP4
Reactivity	Human
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1815-1816
Calculated MW	80965
Antigen Region	765-794

Additional Information

Gene ID	6890
Other Names	Antigen peptide transporter 1, APT1, 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, TAP1, ABCB2, PSF1, RING4, Y3
Target/Specificity	This TAP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 765-794 amino acids from the C-terminal region of human TAP1.
Dilution	IHC-P~~1:100~500 WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TAP1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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.

Background

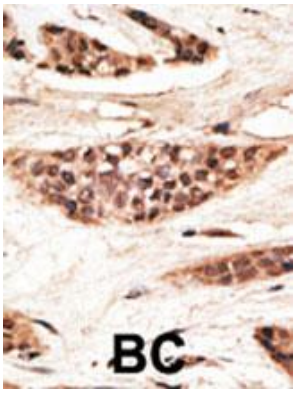
TAP is an integral transmembrane protein involved in the transport of antigens from the cytoplasm to the endoplasmic reticulum for association with MHC class I molecules. It also acts as a molecular scaffold for the final stage of MHC class I folding, namely the binding of peptide. Nascent MHC class I molecules associate with TAP via tapasin. TAP is inhibited by the covalent attachment of herpes simplex virus ICP47 protein, which blocks the peptide-binding site of TAP. It is inhibited by human cytomegalovirus US6 glycoprotein, which binds to the lumenal side of the TAP complex and inhibits peptide translocation by specifically blocking ATP-binding to TAP and prevents the conformational rearrangement of TAP induced by peptide binding. TAP is also inhibited by human adenovirus E3-19K glycoprotein, which binds the TAP complex and acts as a tapasin inhibitor, preventing MHC class I/TAP association. Expression of TAP is down-regulated by human Epstein-barr virus vIL-10 protein, thereby affecting the transport of peptides into the endoplasmic reticulum and subsequent peptide loading by MHC class I molecules. TAP1 and TAP2 form a heterodimer of TAP1 and TAP2, and the peptide-binding site is shared between the cytoplasmic loops of TAP1 and TAP2. TAP, inducible by interferon gamma, belongs to the ABC transporter family, MDR subfamily.

References

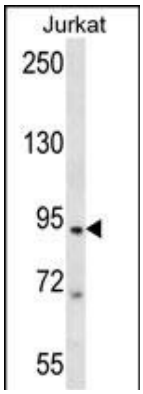
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Images

Formalin-fixed and paraffin-embedded human cancer



tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



TAP1 Antibody (I795) (Cat. #AP6252a) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the TAP1 antibody detected the TAP1 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.