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WAS Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1986a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P42768
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7B10E4
Isotype	IgG2a
Calculated MW	52913
Description	The Wiskott-Aldrich syndrome (WAS) family of proteins share similar domain structure, and are involved in transduction of signals from receptors on the cell surface to the actin cytoskeleton. The presence of a number of different motifs suggests that they are regulated by a number of different stimuli, and interact with multiple proteins. Recent studies have demonstrated that these proteins, directly or indirectly, associate with the small GTPase, Cdc42, known to regulate formation of actin filaments, and the cytoskeletal organizing complex, Arp2/3. Wiskott-Aldrich syndrome is a rare, inherited, X-linked, recessive disease characterized by immune dysregulation and microthrombocytopenia, and is caused by mutations in the WAS gene. The WAS gene product is a cytoplasmic protein, expressed exclusively in hematopoietic cells, which show signalling and cytoskeletal abnormalities in WAS patients. A transcript variant arising as a result of alternative promoter usage, and containing a different 5' UTR sequence, has been described, however, its full-length nature is not known.
Immunogen	Purified recombinant fragment of human WAS (AA: 57-170) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	7454
Other Names	Wiskott-Aldrich syndrome protein, WASp, WAS, IMD2
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	WAS Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	WAS
Synonyms	IMD2
Function	Effector protein for Rho-type GTPases that regulates actin filament reorganization via its interaction with the Arp2/3 complex (PubMed:12235133, PubMed:12769847, PubMed:16275905). Important for efficient actin polymerization (PubMed:12235133, PubMed:16275905, PubMed:8625410). Possible regulator of lymphocyte and platelet function (PubMed:9405671). Mediates actin filament reorganization and the formation of actin pedestals upon infection by pathogenic bacteria (PubMed:18650809). In addition to its role in the cytoplasmic cytoskeleton, also promotes actin polymerization in the nucleus, thereby regulating gene transcription and repair of damaged DNA (PubMed:20574068). Promotes homologous recombination (HR) repair in response to DNA damage by promoting nuclear actin polymerization, leading to drive motility of double-strand breaks (DSBs) (PubMed:29925947).
Cellular Location	Cytoplasm, cytoskeleton. Nucleus
Tissue Location	Expressed predominantly in the thymus. Also found, to a much lesser extent, in the spleen.

Background

Mammalian mitochondrial ribosomal proteins are encoded by nuclear genes and help in protein synthesis within the mitochondrion. Mitochondrial ribosomes (mitoribosomes) consist of a small 28S subunit and a large 39S subunit. They have an estimated 75% protein to rRNA composition compared to prokaryotic ribosomes, where this ratio is reversed. Another difference between mammalian mitoribosomes and prokaryotic ribosomes is that the latter contain a 5S rRNA. Among different species, the proteins comprising the mitoribosome differ greatly in sequence, and sometimes in biochemical properties, which prevents easy recognition by sequence homology. This gene encodes a protein identified as belonging to both the 28S and the 39S subunits. Alternative splicing results in multiple transcript variants. Pseudogenes corresponding to this gene are found on chromosomes 4q, 6p, 6q, 7p, and 15q. ;

References

1. Mol Cell Biol. 2012 Aug;32(15):3153-63.2. Dis Markers. 2010;29(3-4):157-75.

Images

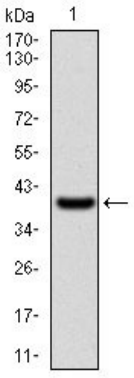

Figure 1: Western blot analysis using WAS mAb against human WAS (AA: 57-170) recombinant protein. (Expected MW is 39 kDa)

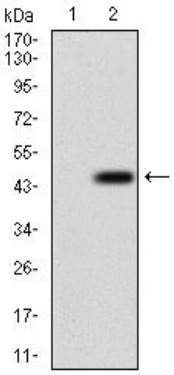

Figure 2: Western blot analysis using WAS mAb against HEK293 (1) and WAS (AA: 57-170)-hIgGFc transfected HEK293 (2) cell lysate.

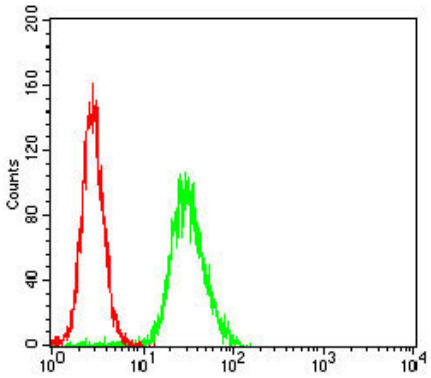

Figure 3: Flow cytometric analysis of Hela cells using WAS mouse mAb (green) and negative control (red).

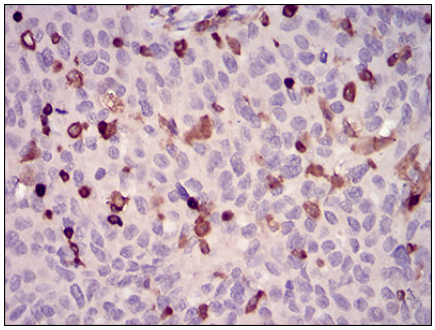

Figure 4: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using WAS mouse mAb with DAB staining.

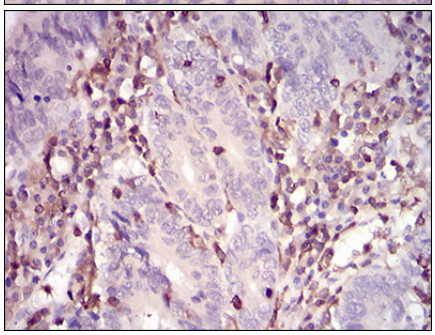

Figure 5: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using WAS mouse mAb with DAB staining.