

**Anti-Aha1 (RAT) Monoclonal Antibody**  
**Aha1 Antibody**  
**Catalog # ASR4783****Specification**

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**Anti-Aha1 (RAT) Monoclonal Antibody - Product Information**

Host	Rat
Conjugate	Unconjugated
Target Species	Mouse
Reactivity	Human
Clonality	Monoclonal
Application	WB, IHC, E, I, LCI
Application Note	This Protein-G purified antibody has been tested for use in ELISA, immunohistochemistry and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 38-40 kDa in size corresponding to Aha1 protein by western blotting in the appropriate cell lysate or extract.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This Protein G purified monoclonal antibody was produced in rats by repeated immunizations with full length recombinant mouse AHA1 protein followed by hybridoma development.

**Anti-Aha1 (RAT) Monoclonal Antibody - Additional Information****Gene ID** 217737**Other Names**  
217737**Purity**

This product is an IgG fraction antibody purified from tissue culture supernatant by Protein-G chromatography, followed by extensive dialysis against the buffer stated above. It is directed against human Aha1 protein. A BLAST analysis was used to suggest cross-reactivity with Aha1 protein from mouse, human and chimpanzee based on 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-Aha1 (RAT) Monoclonal Antibody - Protein Information**

**Name** Ahsa1

**Function**

Acts as a co-chaperone of HSP90AA1 (PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>). Activates the ATPase activity of HSP90AA1 leading to increase in its chaperone activity (PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>). Competes with the inhibitory co- chaperone FNIP1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (By similarity). Competes with the inhibitory co-chaperone TSC1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (PubMed:<a href="http://www.uniprot.org/citations/29127155" target="\_blank">29127155</a>).

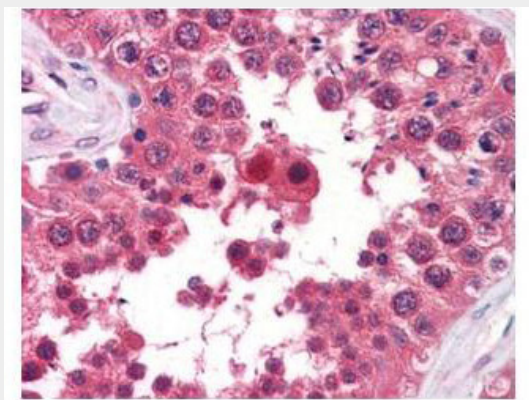
**Cellular Location**

Cytoplasm, cytosol {ECO:0000250|UniProtKB:O95433}. Endoplasmic reticulum {ECO:0000250|UniProtKB:O95433}. Note=May transiently interact with the endoplasmic reticulum. {ECO:0000250|UniProtKB:O95433}

**Anti-Aha1 (RAT) Monoclonal Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-Aha1 (RAT) Monoclonal Antibody - Images**

Rockland's anti-AHA1 monoclonal antibody was used at a 5-10 µg/mL to detect AHA1 in the

seminiferous tubule of human testis (40X) showing moderate staining. Leydig cells showed faint to moderate staining. Expression of AHA1 is reported in many epithelial and lymphatic tissues, with cytoplasmic localization. This antibody showed moderate cytoplasmic staining of a variety of epithelial tissues and lymphoid organs such as spleen and tonsil with minimal background staining. The image shows the localization of the antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain. Tissue was formalin-fixed and paraffin embedded. Personal Communication, Vasiliki Demas, LifeSpanBiosciences, Seattle, WA.

#### **Anti-Aha1 (RAT) Monoclonal Antibody - Background**

Activator of Hsp90 ATPase (AHA1) stimulates the inherent ATPase cycle of Hsp90, which is essential for its chaperone activity in vivo. The activation and/or stability of many of the key regulatory and signaling proteins of the eukaryotic cell depend on their interaction with the Hsp90 molecular chaperone. Hsp90 is assisted and regulated by co-chaperones that participate in an ordered series both to assist client-protein recruitment or release and to modulate progress through the ATPase coupled chaperone cycle. Structural analysis and mutagenesis show that binding of the N-terminal domain of AHA1 to Hsp90 promotes a conformational switch in the middle-segment catalytic loop (aa 370-390) of Hsp90 that exposes the catalytic Arg380 and enables its interaction with ATP in the N-terminal nucleotide-binding domain of the chaperone. Recent studies show that AHA1 modulates Hsp90-dependent stability of the folding of the cystic fibrosis transmembrane conductance regulator (CFTR) in the endoplasmic reticulum (ER). Down-regulation of AHA1 rescues misfolding of CFTR in cystic fibrosis.