

**MMAA Antibody (N-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP9795a****Specification**

---

**MMAA Antibody (N-term) - Product Information**

Application	WB, IHC-P,E
Primary Accession	<a href="#">Q8IVH4</a>
Other Accession	<a href="#">Q8C7H1</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46538
Antigen Region	56-84

**MMAA Antibody (N-term) - Additional Information****Gene ID** 166785**Other Names**

Methylmalonic aciduria type A protein, mitochondrial, 36--, MMAA

**Target/Specificity**

This MMAA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 56-84 amino acids from the N-terminal region of human MMAA.

**Dilution**

WB~~1:1000

IHC-P~~1:50~100

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**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**

MMAA Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**MMAA Antibody (N-term) - Protein Information****Name** MMAA ([HGNC:18871](#))**Function** GTPase, binds and hydrolyzes GTP (PubMed:[28497574](#), PubMed:[20876572](#),

PubMed:[21138732](#), PubMed:[28943303](#)). Involved in intracellular vitamin B12 metabolism, mediates the transport of cobalamin (Cbl) into mitochondria for the final steps of adenosylcobalamin (AdoCbl) synthesis (PubMed:[28497574](#), PubMed:[20876572](#)). Functions as a G-protein chaperone that assists AdoCbl cofactor delivery from MMAB to the methylmalonyl-CoA mutase (MMUT) (PubMed:[28497574](#), PubMed:[20876572](#)). Plays a dual role as both a protectase and a reactivase for MMUT (PubMed:[21138732](#), PubMed:[28943303](#)). Protects MMUT from progressive inactivation by oxidation by decreasing the rate of the formation of the oxidized inactive cofactor hydroxocobalamin (OH<sub>2</sub>Cbl) (PubMed:[21138732](#), PubMed:[28943303](#)). Additionally acts a reactivase by promoting the replacement of OH<sub>2</sub>Cbl by the active cofactor AdoCbl, restoring the activity of MMUT in the presence and hydrolysis of GTP (PubMed:[21138732](#), PubMed:[28943303](#)).

#### Cellular Location

Mitochondrion {ECO:0000269|PubMed:28943303, ECO:0000305}. Cytoplasm

#### Tissue Location

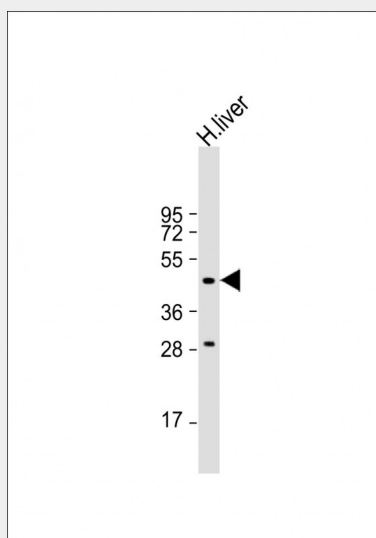
Widely expressed. Highest expression is observed in liver and skeletal muscle

### MMAA Antibody (N-term) - Protocols

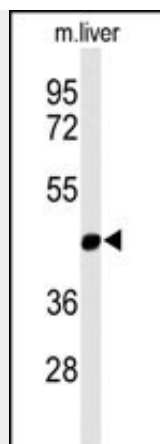
Provided below are standard protocols that you may find useful for product applications.

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

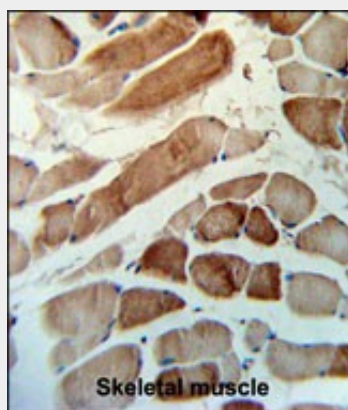
### MMAA Antibody (N-term) - Images



Anti-MMAA Antibody (N-term) at 1:500 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 47 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of MMAA Antibody (N-term) (Cat. #AP9795a) in mouse liver tissue lysates (35ug/lane). MMAA (arrow) was detected using the purified Pab.



MMAA Antibody (N-term) (Cat. #AP9795a) IHC analysis in formalin fixed and paraffin embedded human skeletal muscle tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the MMAA Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

### **MMAA Antibody (N-term) - Background**

The protein encoded by this gene is involved in the translocation of cobalamin into the mitochondrion, where it is used in the final steps of adenosylcobalamin synthesis. Adenosylcobalamin is a coenzyme required for the activity of methylmalonyl-CoA mutase. Defects in this gene are a cause of methylmalonic aciduria.

### **MMAA Antibody (N-term) - References**

- Honjo, R.S., et al. Genet Test Mol Biomarkers 13(2):181-183(2009)
- Merinero, B., et al. J. Inherit. Metab. Dis. 31(1):55-66(2008)
- Horster, F., et al. Pediatr. Res. 62(2):225-230(2007)
- Padovani, D., et al. J. Biol. Chem. 281(26):17838-17844(2006)
- Lerner-Ellis, J.P., et al. Hum. Mutat. 24(6):509-516(2004)