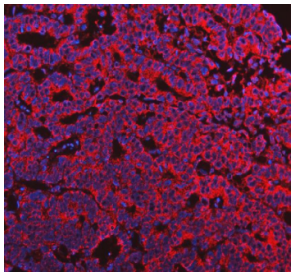
AqCbl reductase Antibody / Aquacobalamin reductase / MTRR (RQ8878)

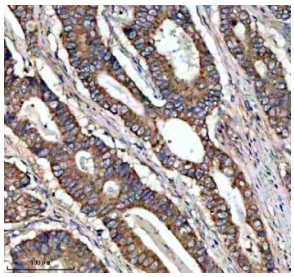
Catalog No.	Formulation	Size
RQ8878	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

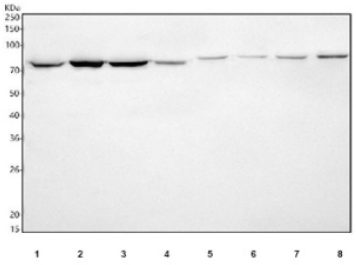
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9UBK8
Localization	Cytoplasm
Applications	Western Blot : 0.5-1 ug/ml Flow Cytometry : 1-3ug/ml Direct ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate
Limitations	This AqCbl reductase antibody is available for research use only.



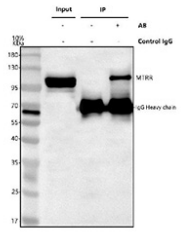
Immunofluorescent staining of FFPE human stomach tissue with AqCbl reductase antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH8 EDTA buffer for 20 min.



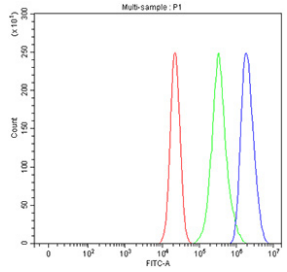
IHC staining of FFPE human stomach cancer tissue with AqCbl reductase antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



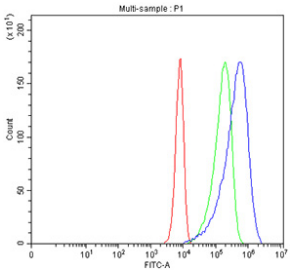
Western blot testing of 1) human K562, 2) human HeLa, 3) human SiHa, 4) human A549, 5) rat skeletal muscle, 6) rat ovary, 7) mouse skeletal muscle and 8) mouse ovary tissue lysate with AqCbl reductase antibody. Predicted molecular weight: 78-80 kDa (two isoforms).



Immunoprecipitation of AqCbl reductase protein from 500ug of human HeLa whole cell lysate with 2ug of AqCbl reductase antibody.



Flow cytometry testing of fixed and permeabilized human A549 cells with AqCbl reductase antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= AqCbl reductase antibody.



Flow cytometry testing of fixed and permeabilized human K562 cells with AqCbl reductase antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= AqCbl reductase antibody.

Description

AqCbl reductase, also known as aquacobalamin reductase, is a key enzyme involved in the intracellular metabolism of cobalamin (vitamin B12). It catalyzes the reduction of aquacobalamin to cob(II)alamin, a critical step in the conversion of dietary cobalamin into its biologically active cofactor forms--methylcobalamin and adenosylcobalamin. These active forms are essential for proper DNA synthesis, red blood cell formation, and neurological function. AqCbl reductase ensures that cobalamin is maintained in a reduced state, facilitating its uptake and utilization in various metabolic pathways.

Dysregulation of AqCbl reductase activity can disrupt cobalamin homeostasis and is associated with metabolic disorders, including methylmalonic acidemia and homocystinuria. Given its pivotal role in cobalamin processing, AqCbl reductase

has emerged as a critical marker in studies of vitamin B12 metabolism and related diseases. Researchers have also explored its function in oxidative stress responses and mitochondrial health.

The AqCbl reductase antibody enables specific detection of this enzyme in biological samples, supporting studies of cobalamin-dependent metabolic pathways. It is widely used in western blot, immunohistochemistry, and ELISA applications to investigate tissue-specific expression patterns and disease-related changes. With proven performance and high specificity, the AqCbl reductase antibody is an indispensable tool for scientists exploring vitamin B12 metabolism. Incorporating the AqCbl reductase antibody into your research workflow provides valuable insights into the regulation and function of this essential metabolic enzyme.

Application Notes

Optimal dilution of the AqCbl reductase antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids L7-S698) was used as the immunogen for the AqCbl reductase antibody.

Storage

After reconstitution, the AqCbl reductase antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.