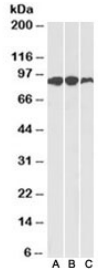
Aconitase 2 Goat Polyclonal Antibody / ACO2 Goat Polyclonal Antibody (R35230)

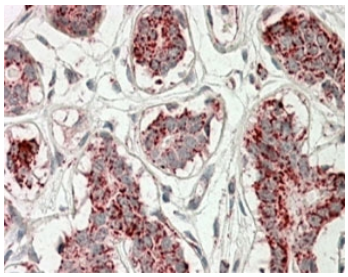
Catalog No.	Formulation	Size
R35230-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

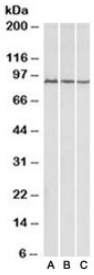
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Pig
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
UniProt	Q99798
Gene ID	50
Localization	Cytoplasmic
Applications	Western Blot : 0.01-0.03ug/ml Immunohistochemistry (FFPE) : 3-5ug/ml ELISA (peptide) LOD : 1:16000
Limitations	This Aconitase 2 Goat Polyclonal Antibody is available for research use only.



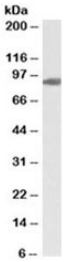
Aconitase 2 Goat Polyclonal Antibody detection in human, mouse and rat adipose tissue by WB. Western blot testing of adipose tissue lysates with the Aconitase 2 Goat Polyclonal Antibody at 0.1 ug/ml. Lane A: human adipose; lane B: mouse adipose; lane C: rat adipose. A strong predominant band is visible at approximately 85 kDa in all three lanes, closely matching the predicted molecular weight of ACO2. The comparable bands across the three species demonstrate recognition of mitochondrial Aconitase 2 by this ACO2 Antibody in human, mouse and rat adipose lysates.



Aconitase 2 Goat Polyclonal Antibody staining of human breast by IHC. Immunohistochemistry of FFPE human breast sections using the Aconitase 2 Goat Polyclonal Antibody at 3.8 ug/ml. Red chromogenic staining is visible within epithelial cells, with a predominantly granular cytoplasmic distribution consistent with the mitochondrial localization of ACO2. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by steaming sections in pH 6 citrate buffer before AP-based detection. The observed intracellular staining demonstrates tissue detection with this ACO2 Antibody.



Aconitase 2 Goat Polyclonal Antibody detection in mouse, rat and pig skeletal muscle by WB. Western blot testing of skeletal muscle lysates with the Aconitase 2 Goat Polyclonal Antibody at 0.01 ug/ml. Lane A: mouse skeletal muscle; lane B: rat skeletal muscle; lane C: pig skeletal muscle. A strong predominant band is detected at approximately 85 kDa in all three samples, closely matching the predicted molecular weight of ACO2. The discrete and comparable signals demonstrate recognition of mitochondrial Aconitase 2 by this ACO2 Antibody across mouse, rat and pig skeletal muscle lysates.



Aconitase 2 Goat Polyclonal Antibody detection in human heart by WB. Western blot testing of human heart lysate with the Aconitase 2 Goat Polyclonal Antibody at 0.01 ug/ml. A strong predominant band is detected at approximately 85 kDa, closely matching the predicted molecular weight of ACO2. The relatively discrete signal is consistent with detection of mitochondrial Aconitase 2 in metabolically active cardiac tissue and demonstrates target recognition by this ACO2 Antibody in human heart lysate.

Description

Aconitase 2 Goat Polyclonal Antibody / ACO2 Antibody recognizes aconitase 2, a mitochondrial enzyme encoded by the ACO2 gene. Also known as mitochondrial aconitase or aconitate hydratase, ACO2 belongs to the aconitase/IPM isomerase family and functions as an important component of the tricarboxylic acid cycle. The enzyme catalyzes the reversible conversion of citrate to isocitrate through the intermediate cis-aconitate. ACO2 is encoded in the nucleus and transported into mitochondria, where it functions primarily within the mitochondrial matrix and contributes to cellular energy metabolism.

Aconitase 2 contains an iron-sulfur cluster that is essential for catalytic activity and participates directly in substrate binding. The iron-sulfur center is sensitive to oxidation, making ACO2 responsive to changes in the cellular redox environment. Oxidative modification can decrease aconitase activity and contribute to the turnover of damaged protein through mitochondrial quality-control pathways. An Aconitase 2 Goat Polyclonal Antibody provides a host-specific reagent for investigating relationships among mitochondrial metabolism, oxidative stress and maintenance of mitochondrial protein function.

ACO2 occupies a central position in intermediary metabolism because the TCA cycle integrates products derived from carbohydrate, lipid and amino acid metabolism with mitochondrial energy production. Changes in aconitase abundance or activity can influence citrate utilization, isocitrate formation and downstream metabolic flux. Its sensitivity to oxidative damage also makes ACO2 useful for investigating how reactive oxygen species and mitochondrial dysfunction affect cellular metabolism. An ACO2 Antibody can therefore support research examining mitochondrial bioenergetics, metabolic adaptation and cellular redox homeostasis.

Altered ACO2 expression, activity and stability have been investigated in the context of metabolic dysfunction, neurodegenerative processes, cardiovascular biology and cancer metabolism. Its roles as both a TCA cycle enzyme and an oxidation-sensitive mitochondrial protein provide an important connection between cellular energy production and

oxidative stress. NSJ Bioreagents provides this goat polyclonal reagent for researchers investigating mitochondrial aconitase biology. An Aconitase 2 Goat Polyclonal Antibody provides a useful tool for studying ACO2 and its relationship to mitochondrial metabolism, TCA cycle function and cellular redox regulation.

For a monoclonal antibody to this target, see our ACO2 Antibody 4C12D1 / Aconitase 2 Monoclonal Antibody.

Application Notes

Optimal dilution of the Aconitase 2 Goat Polyclonal Antibody should be determined by the researcher.

Immunogen

Amino acids QDTYQHPPKDSSGQH were used as the immunogen for this Aconitase 2 Goat Polyclonal Antibody.

Storage

Aliquot and store the Aconitase 2 Goat Polyclonal Antibody at -20oC.

Alternate Names

Aconitase 2 antibody, ACO2 antibody, Aconitase-2 antibody, Mitochondrial aconitase antibody, Aconitate hydratase mitochondrial antibody, Citrate hydro-lyase antibody, ACONM antibody

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