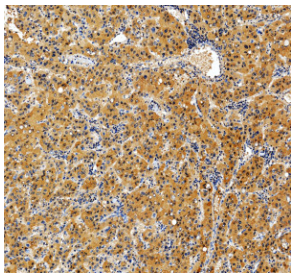
HAAO Antibody / 3HAO Antibody (RQ8821)

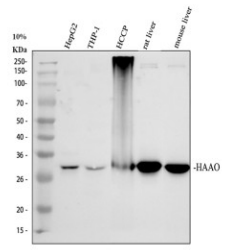
Catalog No.	Formulation	Size
RQ8821	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P46952
Localization	Cytoplasm
Applications	Western blot: 1-2ug/ml Immunohistochemistry: 2-5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This HAAO Antibody / 3HAO Antibody is available for research use only.



HAAO Antibody staining of human liver cancer by IHC. Immunohistochemistry of FFPE human liver cancer sections using the HAAO Antibody at 2 ug/ml. Strong brown staining is broadly distributed throughout the cytoplasm of hepatocellular tumor cells, while nuclei are counterstained blue and remain predominantly negative. The staining is relatively widespread but varies in intensity among individual cells, producing a predominantly cytoplasmic pattern consistent with the reported localization of HAAO. Heat-mediated antigen retrieval was performed in pH 8 EDTA before overnight primary antibody incubation at 4oC. The staining demonstrates tissue detection of 3-hydroxyanthranilate 3,4-dioxygenase with this 3HAO Antibody.



HAAO Antibody detection across human, rat and mouse samples by WB. Western blot testing with the HAAO Antibody under reducing conditions. Lane 1: human HepG2; lane 2: human THP-1; lane 3: human HCCP; lane 4: rat liver; lane 5: mouse liver. Thirty micrograms of protein were loaded per lane. A specific band is detected at approximately 33 kDa across all samples, matching the calculated molecular weight of 32.6 kDa. Rat and mouse liver show particularly strong signal, while the HCCP lane also displays higher-molecular-weight background. The results demonstrate cross-species detection of HAAO with this 3HAO Antibody.

Description

HAAO Antibody / 3HAO Antibody recognizes 3-hydroxyanthranilate 3,4-dioxygenase, an enzyme encoded by the HAAO gene. Also known as 3HAO or 3-HAO, HAAO is a monomeric cytosolic enzyme that functions in the kynurenine pathway, the principal route of tryptophan degradation in mammals. The enzyme catalyzes the oxidative ring opening of 3-hydroxyanthranilic acid, producing an unstable intermediate that subsequently forms quinolinic acid. HAAO belongs to a family of nonheme iron-dependent dioxygenases and requires ferrous iron for its catalytic activity.

The kynurenine pathway generates several biologically active metabolites and ultimately contributes to de novo nicotinamide adenine dinucleotide biosynthesis. HAAO occupies an important position in this pathway because its enzymatic activity regulates conversion of 3-hydroxyanthranilic acid toward quinolinic acid production. Quinolinic acid can serve as a metabolic precursor for nicotinamide adenine dinucleotide synthesis and also functions as an agonist of N-methyl-D-aspartate receptors. A HAAO Antibody can therefore support research examining connections among tryptophan catabolism, cellular metabolism and the biological effects of kynurenine pathway metabolites.

Regulation of HAAO activity can influence the balance of metabolites within the kynurenine pathway. This relationship has generated interest in 3HAO in studies of inflammatory signaling, immune-metabolic regulation and neurological processes. Altered quinolinic acid production has been investigated in neuroinflammation and excitotoxicity, while broader changes in kynurenine pathway activity have been associated with immune responses and metabolic adaptation. A 3HAO Antibody provides a useful reagent for examining the enzyme responsible for this important metabolic step and its relationship to downstream quinolinic acid formation.

HAAO is also relevant to research investigating metabolic remodeling and the relationship between amino acid catabolism and cellular physiology. Its enzymatic position provides a direct biochemical connection between tryptophan degradation and metabolites capable of influencing cellular function. NSJ Bioreagents provides this polyclonal reagent for researchers investigating HAAO biology and kynurenine pathway metabolism. A HAAO Antibody provides a useful tool for studying 3-hydroxyanthranilate 3,4-dioxygenase and its role in tryptophan metabolism, quinolinic acid production and cellular metabolic regulation.

This HAAO Antibody is part of our Metabolism Antibodies collection.

Application Notes

Optimal dilution of the HAAO Antibody / 3HAO Antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (amino acids E52-G286) was used as the immunogen for the HAAO Antibody.

Storage

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

Alternate Names

3HAO antibody, 3-HAO antibody, 3-Hydroxyanthranilate 3,4-dioxygenase antibody, Hydroxyanthranilate 3,4-dioxygenase antibody

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