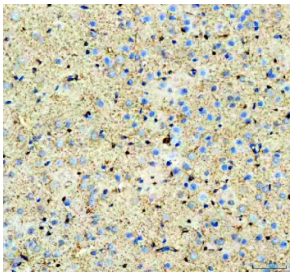
ALDOC Antibody / Aldolase C (FY12802)

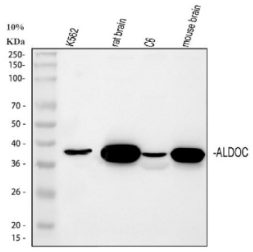
Catalog No.	Formulation	Size
FY12802	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

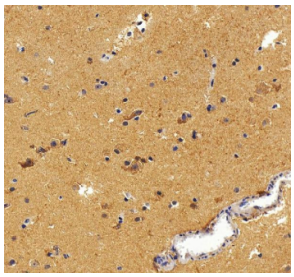
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P09972
Localization	Cytoplasm, extracellular
Applications	Immunohistochemistry : 2-5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This ALDOC antibody is available for research use only.



Immunohistochemical staining of Aldolase C/ALDOC using anti-ALDOC antibody. Aldolase C/ALDOC was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-ALDOC antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of Aldolase C/ALDOC using anti-ALDOC antibody. Lane 1: human K562 whole cell lysates, Lane 2: rat brain tissue lysates, Lane 3: rat C6 whole cell lysates, Lane 4: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ALDOC antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for Aldolase C/ALDOC at approximately 39 kDa. The expected molecular weight of Aldolase C/ALDOC is at 39 kDa.



Immunohistochemical staining of Aldolase C/ALDOC using anti-ALDOC antibody. Aldolase C/ALDOC was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-ALDOC antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

ALDOC antibody detects Aldolase C, a glycolytic enzyme involved in the reversible cleavage of fructose-1,6-bisphosphate into dihydroxyacetone phosphate and glyceraldehyde-3-phosphate. Encoded by the ALDOC gene on chromosome 17q11.2, this protein is one of three aldolase isoenzymes (A, B, and C) expressed in a tissue-specific manner. Aldolase C is predominantly found in the brain and other neural tissues, where it supports both glycolytic energy metabolism and neuronal development.

Structurally, Aldolase C functions as a homotetramer with catalytic lysine residues that form Schiff bases with its substrate. It shares high sequence identity with Aldolase A (muscle type) and B (liver type) but exhibits unique kinetic properties suited for neuronal metabolism. In neurons and glial cells, Aldolase C contributes to glucose utilization, energy coupling, and maintenance of synaptic function. It also interacts with cytoskeletal proteins, suggesting roles beyond metabolism, including regulation of actin organization and cell morphology.

The ALDOC antibody is widely used in neuroscience, metabolism, and cell biology research to study glycolytic regulation and neural differentiation. Western blot analysis identifies a 39 kilodalton band corresponding to Aldolase C, while immunohistochemistry reveals strong cytoplasmic staining in Purkinje cells and astrocytes. This antibody supports investigation of metabolic compartmentalization and energy flux in the central nervous system.

Altered expression of Aldolase C has been observed in neurodegenerative diseases and gliomas, where metabolic reprogramming contributes to pathogenesis. Beyond the brain, ALDOC expression in epithelial and endocrine tissues suggests additional roles in energy balance and biosynthesis. The ALDOC antibody provides a reliable reagent for analyzing glycolytic enzyme distribution and function. NSJ Bioreagents offers this antibody validated for its applications, ensuring high specificity and reproducibility for metabolic and neurobiological studies.

Application Notes

Optimal dilution of the ALDOC antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Aldolase C/ALDOC was used as the immunogen for the ALDOC antibody.

Storage

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