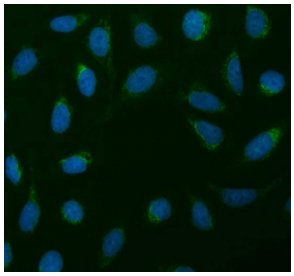
SDHA Antibody (R32062)

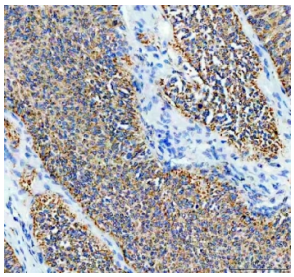
Catalog No.	Formulation	Size
R32062	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

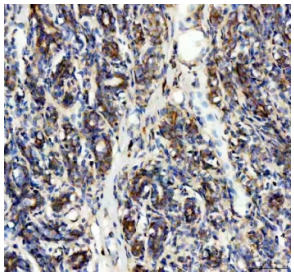
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P31040
Localization	Cytoplasm (Mitochondria)
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This SDHA antibody is available for research use only.



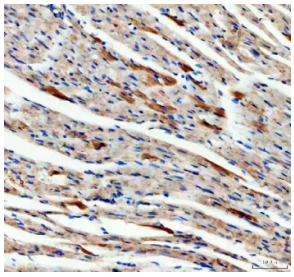
Immunofluorescent staining of FFPE human U-2 OS cells with SDHA antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



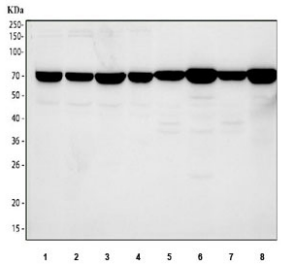
IHC staining of FFPE human ovarian cancer tissue with SDHA antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



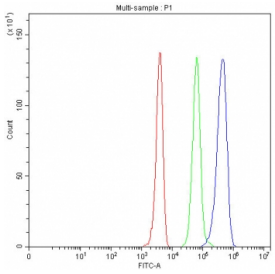
IHC staining of FFPE human breast cancer tissue with SDHA antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



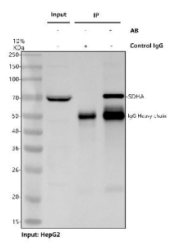
IHC staining of FFPE mouse heart tissue with SDHA antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) human 293T, 2) human MCF7, 3) human HepG2, 4) human HeLa, 5) rat brain, 6) rat kidney, 7) mouse brain and 8) mouse kidney tissue lysate with SDHA antibody. Predicted molecular weight ~73 kDa.



Flow cytometry testing of fixed and permeabilized human 293T cells with SDHA antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= SDHA antibody.



Immunoprecipitation of SDHA protein from 500ug of human HepG2 whole cell lysate with 2ug of SDHA antibody.

Description

SDHA antibody targets Succinate dehydrogenase subunit A (SDHA), a mitochondrial flavoprotein that serves as a core catalytic component of succinate dehydrogenase, also known as mitochondrial complex II. SDHA plays a dual role in cellular metabolism by participating in both the tricarboxylic acid cycle and the mitochondrial electron transport chain. Localized to the inner mitochondrial membrane on the matrix-facing side, SDHA catalyzes the oxidation of succinate to fumarate while transferring electrons to ubiquinone through associated complex II subunits. As a member of the succinate dehydrogenase flavoprotein family, SDHA is essential for coupling central carbon metabolism with oxidative phosphorylation.

Functionally, SDHA supports efficient mitochondrial respiration and ATP production by enabling electron flow from the tricarboxylic acid cycle directly into the electron transport chain. The protein contains a tightly bound flavin adenine dinucleotide cofactor that is required for catalytic activity and redox cycling. SDHA is broadly expressed across tissues, reflecting the universal requirement for mitochondrial energy metabolism in eukaryotic cells. High expression levels are typically observed in metabolically active tissues such as muscle, heart, liver, and brain. An SDHA antibody supports studies examining mitochondrial metabolism, respiratory chain integrity, and cellular energy balance.

SDHA is widely used as a reference marker for mitochondrial content and integrity in biochemical and cell biology studies, as its expression is relatively stable under many experimental conditions. Alterations in SDHA abundance or activity can indicate changes in mitochondrial mass, metabolic state, or respiratory function. Disruption of succinate dehydrogenase activity leads to accumulation of succinate, which can influence redox balance and signaling pathways linked to hypoxia responses and epigenetic regulation. These features make SDHA a valuable target for investigations into metabolic regulation and mitochondrial function.

From a biological and disease-relevance perspective, SDHA and other succinate dehydrogenase subunits have been implicated in inherited metabolic disorders and tumorigenesis when dysfunctional. Impaired SDHA activity can contribute to mitochondrial disease phenotypes characterized by reduced oxidative phosphorylation capacity and altered cellular metabolism. SDHA also plays an indirect role in regulating reactive oxygen species production through its position within the electron transport chain, linking mitochondrial respiration to redox homeostasis and cellular stress responses.

At the molecular level, SDHA is encoded by the SDHA gene and produces a protein of approximately 664 amino acids in its mature mitochondrial form. The protein interacts with additional complex II subunits to form a functional enzyme complex anchored within the inner mitochondrial membrane. Proper assembly and stability of SDHA are required for efficient electron transfer and metabolic coupling. An SDHA antibody supports research applications focused on mitochondrial biology, metabolic pathways, and energy production, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

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

Immunogen

Amino acids 44-380 of human SDHA were used as the immunogen for the SDHA antibody.

Storage

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

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