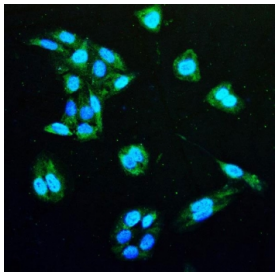
Isocitrate Dehydrogenase Antibody 16H7 / IDH1 Protein Antibody [clone 16H7] (RQ6022)

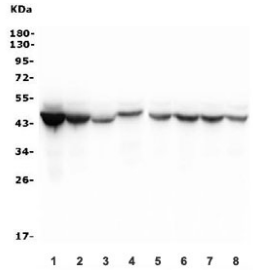
Catalog No.	Formulation	Size
RQ6022	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

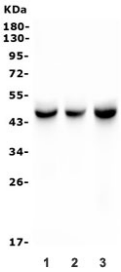
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	16H7
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	O75874
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 2-4ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This Isocitrate Dehydrogenase Antibody 16H7 / IDH1 Protein Antibody is available for research use only.



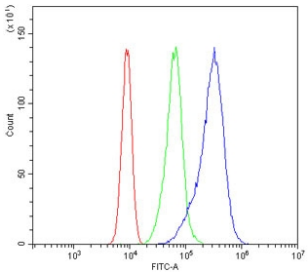
Isocitrate Dehydrogenase Antibody 16H7 Detection in U-2 OS Human Osteosarcoma Cells IF. Immunofluorescence staining of FFPE human U-2 OS osteosarcoma cells using Isocitrate Dehydrogenase Antibody, clone 16H7, shown in green with DAPI nuclear counterstain shown in blue. HIER was performed by steaming in pH 6 citrate buffer for 20 min. Green fluorescence is distributed predominantly throughout the cytoplasmic compartment, consistent with detection of IDH1 Protein in these human osteosarcoma cells.



Isocitrate Dehydrogenase Antibody 16H7 Detection Across Human Cell Lines WB. Western blot analysis using Isocitrate Dehydrogenase Antibody, clone 16H7, with lysates from 1) HepG2, 2) Caco-2, 3) U-87 MG, 4) THP-1, 5) HeLa, 6) K562, 7) PC-3 and 8) HEK293 cells. IDH1 has a predicted molecular weight of approximately 46 kDa. A prominent band is detected near the expected molecular weight across the eight human cell lines, supporting detection of IDH1 Protein in diverse cellular backgrounds.



Isocitrate Dehydrogenase Antibody 16H7 Detection in Rat and Mouse Samples WB. Western blot analysis using Isocitrate Dehydrogenase Antibody, clone 16H7, with lysates from 1) rat liver, 2) rat RH-35 cells and 3) mouse liver. IDH1 has a predicted molecular weight of approximately 46 kDa. A prominent band is detected near the expected molecular weight in each lane, demonstrating cross-species detection of IDH1 Protein in rat and mouse samples under the tested conditions.



Isocitrate Dehydrogenase Antibody 16H7 Detection in Caco-2 Human Colorectal Cancer Cells IF. Immunofluorescence staining of FFPE human Caco-2 colorectal adenocarcinoma cells using Isocitrate Dehydrogenase Antibody, clone 16H7, shown in green with DAPI nuclear counterstain shown in blue. HIER was performed by steaming in pH 6 citrate buffer for 20 min. Green fluorescence is visible predominantly throughout the cytoplasmic compartment surrounding the nuclei, consistent with detection of IDH1 Protein in these human colorectal cancer cells.

Description

Isocitrate Dehydrogenase Antibody 16H7 / IDH1 Protein Antibody recognizes isocitrate dehydrogenase 1 (IDH1), an NADP-dependent metabolic enzyme found predominantly in the cytoplasm and peroxisomes. IDH1 catalyzes the oxidative decarboxylation of isocitrate to alpha-ketoglutarate while generating NADPH. Through these products, IDH1 contributes to intermediary metabolism, reductive biosynthesis, antioxidant defense, and maintenance of cellular redox balance.

IDH1 Protein is functionally distinct from the mitochondrial NAD-dependent isocitrate dehydrogenases involved directly in the tricarboxylic acid cycle. Cytosolic IDH1 provides an important source of NADPH for lipid biosynthesis and cellular defense against oxidative stress. The protein also contains a peroxisomal targeting signal, supporting localization to peroxisomes where NADPH is required for several metabolic reactions. These properties connect IDH1 activity with lipid metabolism, redox homeostasis, and adaptation to changing cellular metabolic demands.

IDH1 has received considerable attention in cancer research because recurrent somatic mutations affecting arginine 132 occur in several malignancies. These mutations confer neomorphic enzymatic activity that enables mutant IDH1 to convert alpha-ketoglutarate into D-2-hydroxyglutarate. Accumulation of this oncometabolite can alter alpha-ketoglutarate-dependent cellular processes and contribute to widespread metabolic and epigenetic changes. General IDH1 Protein Antibody reagents are therefore useful complements to mutation-specific antibodies when investigating IDH1 expression independently of a particular R132 mutation.

Clone 16H7 is a mouse monoclonal antibody generated against a defined peptide sequence from the human IDH1 protein. NSJ Bioreagents offers this Isocitrate Dehydrogenase Antibody for researchers investigating IDH1 expression, cellular metabolism, redox regulation, and cancer-associated metabolic alterations. An Isocitrate Dehydrogenase Antibody provides a clone-defined reagent for studying the expression and biology of this important NADP-dependent metabolic enzyme.

For an alternative monoclonal clone targeting IDH1, see our IDH1 Antibody IDH1/1152 / Cytosolic Isocitrate Dehydrogenase Antibody page.

Application Notes

Optimal dilution of the Isocitrate Dehydrogenase Antibody 16H7 / IDH1 Protein Antibody should be determined by the researcher.

Immunogen

Amino acids KGLPNVQRSDYLNTFEFMDKLGENLKIKLAQAK from the human protein were used as the immunogen for the Isocitrate Dehydrogenase Antibody 16H7.

Storage

After reconstitution, the Isocitrate Dehydrogenase Antibody 16H7 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

IDH1 antibody, Isocitrate dehydrogenase 1 antibody, Isocitrate dehydrogenase antibody, IDH1 protein antibody, Cytosolic isocitrate dehydrogenase antibody, Isocitrate dehydrogenase [NADP] cytoplasmic antibody

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