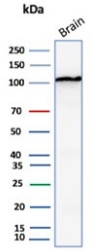
Hexokinase I Antibody HK1/9515 / Hexokinase Type I Antibody [clone HK1/9515] (V5726)

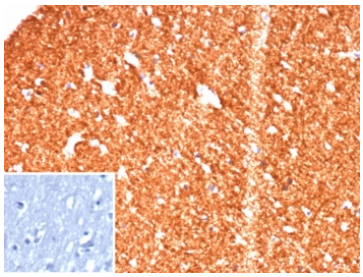
Catalog No.	Formulation	Size
V5726-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5726-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5726SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

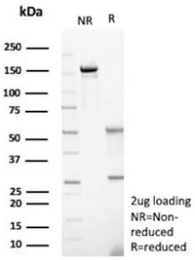
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	HK1/9515
Purity	Protein G affinity
UniProt	P19367
Applications	Western blot: 2-4ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This Hexokinase I Antibody HK1/9515 / Hexokinase Type I Antibody is available for research use only.



Hexokinase I Antibody HK1/9515 in Human Brain WB. Western blot testing of Hexokinase I Antibody HK1/9515 / Hexokinase Type I Antibody in human brain tissue lysate. A strong, discrete HK1 band is observed at approximately 100-105 kDa, consistent with the canonical molecular weight of ~102 kDa.



Hexokinase I Antibody HK1/9515 in Human Brain IHC. Immunohistochemistry testing of clone HK1/9515 in FFPE human brain tissue. HIER was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min followed by cooling before testing. Strong, widespread HK1 immunoreactivity is observed throughout the brain tissue. The inset shows the secondary antibody negative control, with PBS substituted for the primary antibody and minimal staining observed.



Purified Hexokinase I Antibody HK1/9515 SDS-PAGE. Electrophoretic analysis of 2 ug purified, BSA-free clone HK1/9515 under non-reducing (NR) and reduced (R) conditions. The non-reduced antibody migrates predominantly near ~150 kDa, while reduction produces the expected immunoglobulin heavy chain near ~50 kDa and light chain near ~25 kDa, supporting the integrity of the purified antibody preparation.

Description

Hexokinase I Antibody HK1/9515 / Hexokinase Type I Antibody recognizes hexokinase-1, an ATP-dependent glucose kinase encoded by the HK1 gene. Hexokinase I catalyzes the phosphorylation of glucose to glucose-6-phosphate, representing an important initial step in cellular glucose utilization. Formation of glucose-6-phosphate traps glucose within the cell and provides a metabolic intermediate that can enter glycolysis, glycogen synthesis or the pentose phosphate pathway. Through this activity, HK1 contributes to glucose homeostasis and cellular energy metabolism.

Hexokinase-1 is an approximately 102 kDa protein containing homologous N- and C-terminal domains derived from an ancestral gene duplication. The C-terminal domain contains the principal catalytic activity, while the N-terminal portion has important regulatory functions. HK1 is inhibited by glucose-6-phosphate, providing feedback regulation that helps coordinate glucose phosphorylation with the metabolic requirements of the cell.

A distinctive property of Hexokinase Type I is its association with the outer mitochondrial membrane. An N-terminal mitochondrial-binding sequence facilitates interaction with voltage-dependent anion channels and positions HK1 near mitochondrially generated ATP. This arrangement provides a functional connection between glucose phosphorylation and mitochondrial energy production. Mitochondrial HK1 has also been studied in relation to membrane integrity, metabolic adaptation, cellular stress and mechanisms regulating apoptosis.

HK1 is broadly involved in basal glucose metabolism, and alternative splicing produces several transcript variants, including forms with tissue-specific expression patterns. Pathogenic HK1 variants have been associated with hexokinase deficiency and nonspherocytic hemolytic anemia, while other variants are linked to neurological and developmental disorders. The metabolic and mitochondrial functions of HK1 therefore make it relevant to research involving glycolysis, bioenergetics, mitochondrial physiology and disease-associated metabolic dysfunction.

Clone HK1/9515 is a mouse monoclonal antibody generated against a recombinant fragment from approximately amino acids 1-200 of human HK1. NSJ Bioreagents provides this Hexokinase I Antibody for research into HK1 biology, glucose metabolism and cellular energy regulation. A Hexokinase Type I Antibody can support investigation of the molecular connections between glucose phosphorylation, mitochondrial metabolism and cellular homeostasis.

For additional information on hexokinase-1 biology and complementary antibody validation, visit our HK1 Antibody 4B7 / Glycolysis Enzyme Antibody page.

Application Notes

Optimal dilution of the Hexokinase I Antibody HK1/9515 / Hexokinase Type I Antibody should be determined by the

researcher.

Immunogen

A portion of amino acids 1-200 from human HK1 protein was used as the immunogen for the Hexokinase I Antibody HK1/9515.

Storage

Aliquot the Hexokinase I Antibody HK1/9515 and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Hexokinase I antibody, Hexokinase Type I antibody, HK1 antibody, Hexokinase 1 antibody, Hexokinase-1 antibody

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