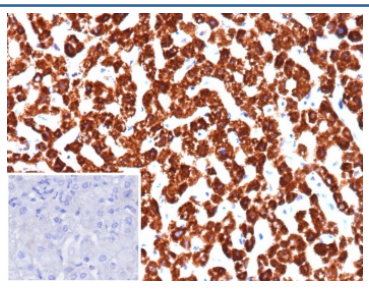
Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody [clone PHPT1/12054] (V5722)

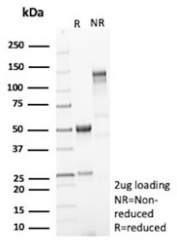
Catalog No.	Formulation	Size
V5722-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5722-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5722SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG
Clone Name	PHPT1/12054
Purity	Protein A/G affinity
UniProt	Q9NRX4
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody is available for research use only.



Phosphohistidine Phosphatase 1 Antibody in Human Hepatocellular Carcinoma IHC. Immunohistochemistry staining of FFPE human hepatocellular carcinoma tissue with Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody clone PHPT1/12054. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris containing 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. The inset shows the secondary antibody negative control, in which PBS was substituted for the primary antibody. This Phosphohistidine Phosphatase 1 Antibody demonstrates PHPT1 detection in human hepatocellular carcinoma tissue.



Purified Phosphohistidine Phosphatase 1 Antibody SDS-PAGE. Electrophoretic analysis of purified, BSA-free Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody clone PHPT1/12054 was performed to evaluate antibody integrity and purity. The purified antibody preparation demonstrates the expected immunoglobulin protein profile under the tested conditions. This Phosphohistidine Phosphatase 1 Antibody is available in a BSA-free, sodium azide-free formulation.

Description

Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody targets PHPT1, a small cytoplasmic phosphatase involved in the regulation of protein histidine phosphorylation. PHPT1, also known as protein histidine phosphatase (PHP) and 14 kDa phosphohistidine phosphatase, is a highly conserved protein of approximately 125 amino acids. Histidine phosphorylation is a reversible post-translational modification that remains less characterized than phosphorylation of serine, threonine and tyrosine. PHPT1 was the first eukaryotic protein histidine phosphatase identified and has become an important protein for investigating this noncanonical phosphorylation pathway.

PHPT1 catalyzes the removal of phosphate from phosphohistidine-containing protein substrates and helps regulate the balance of histidine phosphorylation. An established PHPT1 substrate is ATP-citrate lyase (ACLY), an important metabolic enzyme in which histidine phosphorylation participates in catalytic activity. PHPT1 has also been associated with signaling involving heterotrimeric G proteins and regulation of the KCa3.1 potassium channel, connecting this histidine phosphatase with cellular signaling, ion-channel activity and metabolic regulation.

Research into PHPT1 has expanded alongside growing interest in mammalian histidine phosphorylation. PHPT1 activity has been investigated in pancreatic beta cells, where altered expression can affect ATP-citrate lyase activity and fuel-stimulated insulin secretion. Mammalian phosphohistidine signaling also involves proteins such as the histidine kinases NME1 and NME2 and the phosphatase LHPP. Studying the expression and distribution of these regulatory proteins can help define the roles of reversible histidine phosphorylation in normal physiology and disease.

This mouse monoclonal antibody was generated against recombinant human PHPT1 and is validated for immunohistochemical detection in human FFPE tissue. NSJ Bioreagents provides this Phosphohistidine Phosphatase 1 Antibody for research into PHPT1 expression, protein phosphorylation, cell signaling and metabolic regulation. A Histidine Phosphatase Antibody can support studies examining PHPT1 distribution and the emerging biology of reversible histidine phosphorylation.

Because PHPT1 regulates a reversible protein phosphorylation pathway, researchers studying this target may also find our Phospho Antibody - Phosphorylation Specific Antibodies page useful for broader phosphorylation-focused research.

Application Notes

Optimal dilution of the Phosphohistidine Phosphatase 1 Antibody / Histidine Phosphatase Antibody should be determined by the researcher.

Immunogen

A recombinant human 14 kDa phosphohistidine phosphatase protein was used as the immunogen for the Phosphohistidine phosphatase 1 antibody.

Storage

Aliquot the Phosphohistidine phosphatase 1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

PHPT1 antibody, phosphohistidine phosphatase 1 antibody, histidine phosphatase antibody, 14 kDa phosphohistidine phosphatase antibody, protein histidine phosphatase antibody, PHP antibody

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