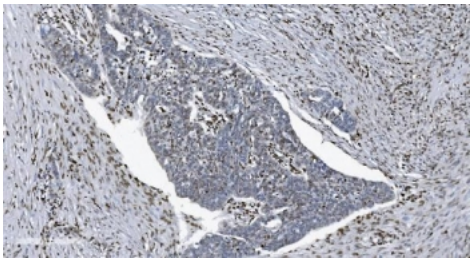
SAMHD1 Antibody 10H8 / SAMHD1 Mouse Monoclonal Antibody [clone 10H8] (RQ6352)

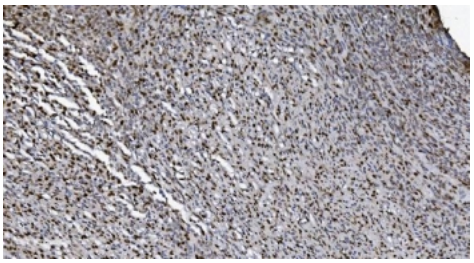
Catalog No.	Formulation	Size
RQ6352	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

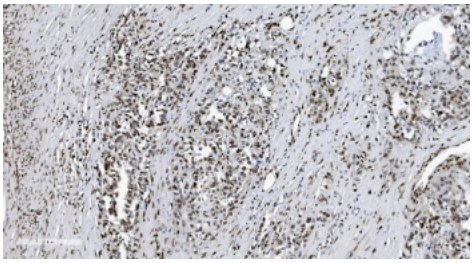
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	10H8
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9Y3Z3
Localization	Nuclear
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence (FFPE): 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This SAMHD1 Antibody 10H8 / SAMHD1 Mouse Monoclonal Antibody is available for research use only.



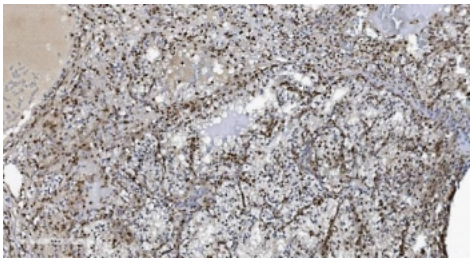
SAMHD1 Antibody 10H8 IHC Staining of Human Ovarian Serous Adenocarcinoma. Immunohistochemical analysis of FFPE human ovarian serous adenocarcinoma tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is visible in scattered cells throughout the tumor tissue, with areas of predominantly blue hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



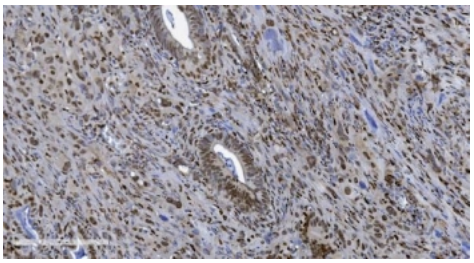
SAMHD1 Antibody 10H8 IHC Staining of Human Lymphoma Tissue. Immunohistochemical analysis of FFPE human lymphoma tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is distributed among numerous cells within the densely cellular tissue section, with heterogeneous staining across the examined field. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



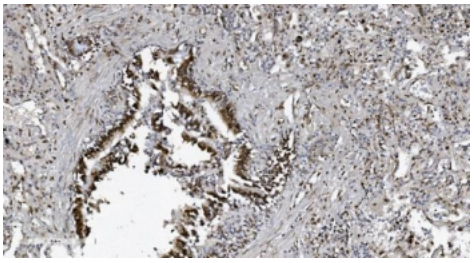
SAMHD1 Antibody 10H8 IHC Staining of Human Gastric Adenocarcinoma. Immunohistochemical analysis of FFPE human gastric adenocarcinoma tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is observed in scattered cells and portions of the glandular tumor tissue, with variation in staining intensity across the section. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



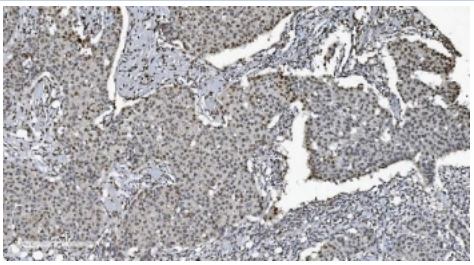
SAMHD1 Antibody 10H8 IHC Staining of Human Renal Clear Cell Carcinoma. Immunohistochemical analysis of FFPE human renal clear cell carcinoma tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is visible in numerous cells, including areas surrounding vascular and tubular structures, with heterogeneous staining across the tissue. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



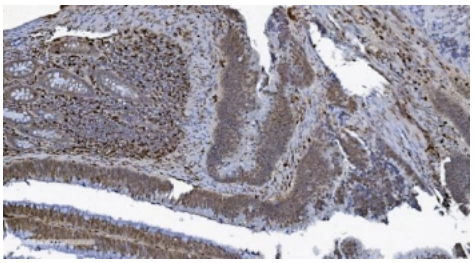
SAMHD1 Antibody 10H8 IHC Staining of Human Gallbladder Adenocarcinoma. Immunohistochemical analysis of FFPE human gallbladder adenocarcinoma tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is observed in numerous tumor-associated cells and glandular epithelial structures, with hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



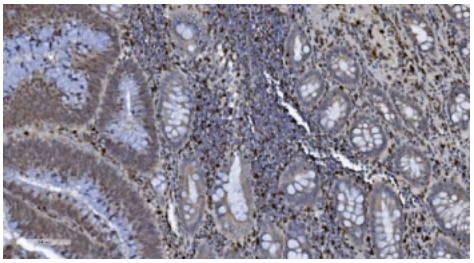
SAMHD1 Antibody 10H8 IHC Staining of Human Lung Cancer Tissue. Immunohistochemical analysis of FFPE human lung cancer tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is visible in portions of the tumor-associated glandular epithelium and surrounding cellular regions, with variation in staining intensity across the section. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



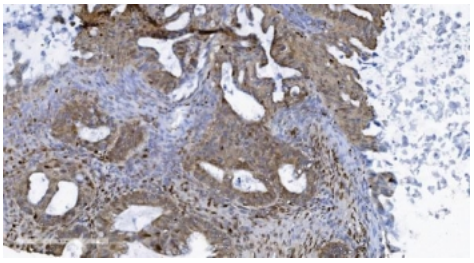
SAMHD1 Antibody 10H8 IHC Staining of Human Breast Cancer Tissue. Immunohistochemical analysis of FFPE human breast cancer tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is distributed among scattered cells within the tumor tissue, with prominent areas of blue hematoxylin counterstaining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



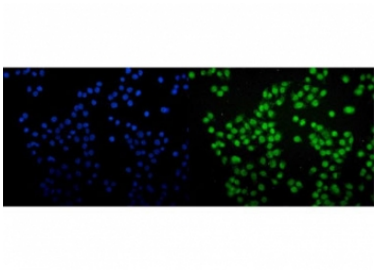
SAMHD1 Antibody 10H8 IHC Staining of Human Rectal Cancer with Dense Cellular Infiltration. Immunohistochemical analysis of FFPE human rectal cancer tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is prominent in portions of the glandular epithelium, while adjacent densely cellular regions show variable staining. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



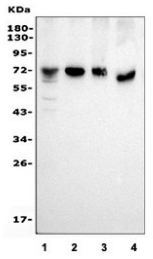
SAMHD1 Antibody 10H8 IHC Staining of Glandular Structures in Human Rectal Cancer. Immunohistochemical analysis of FFPE human rectal cancer tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is visible in multiple glandular structures, including portions of the epithelial lining, with comparatively lighter staining in surrounding tissue regions. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



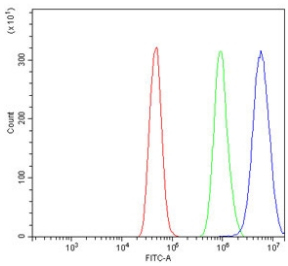
SAMHD1 Antibody 10H8 IHC Staining of Glandular Tumor Epithelium in Human Ovarian Cancer. Immunohistochemical analysis of FFPE human ovarian cancer tissue using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Brown DAB staining is prominent in portions of the glandular tumor epithelium and adjacent cellular regions, with heterogeneous staining across the section. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8) for 20 minutes.



SAMHD1 Antibody 10H8 IF Staining of Human Caco-2 Cells. Immunofluorescence analysis of FFPE human Caco-2 cells using SAMHD1 Mouse Monoclonal Antibody clone 10H8. Green SAMHD1-associated fluorescence is concentrated predominantly in nuclear regions, consistent with the known nuclear localization of SAMHD1. Nuclei were counterstained with DAPI (blue). Heat-induced epitope retrieval was performed using citrate buffer (pH 6) for 20 minutes.



SAMHD1 Antibody 10H8 WB Analysis of Human Placenta, HeLa, HepG2 and K562 Samples. Western blot analysis of human placenta tissue (lane 1), HeLa (lane 2), HepG2 (lane 3), and K562 (lane 4) cell lysates using SAMHD1 Mouse Monoclonal Antibody clone 10H8. A prominent band is detected near 72 kDa in all four samples, consistent with the predicted molecular weight of SAMHD1.



SAMHD1 Antibody 10H8 FACS Staining of Human A431 Cells. Flow cytometry analysis of human A431 cells using SAMHD1 Mouse Monoclonal Antibody clone 10H8 at 1 ug per million cells. The antibody-stained population (blue) shows a clear rightward fluorescence shift relative to the isotype control (green) and unstained cells (red), consistent with SAMHD1 detection. Cells were blocked with goat serum before staining.

Description

SAMHD1 Antibody 10H8 / SAMHD1 Mouse Monoclonal Antibody targets SAM domain and HD domain-containing protein

1 (SAMHD1), an enzyme that regulates intracellular nucleotide availability and contributes to innate antiviral defense. SAMHD1 contains a sterile alpha motif (SAM) domain and an HD catalytic domain responsible for deoxynucleoside triphosphate triphosphohydrolase activity. Through its influence on deoxynucleoside triphosphate (dNTP) concentrations, SAMHD1 participates in nucleotide homeostasis, viral restriction, and cellular responses to replication-associated stress.

SAMHD1 hydrolyzes dNTPs into their corresponding deoxynucleosides and inorganic triphosphate. Its catalytic activity depends on nucleotide-mediated allosteric regulation and formation of an active tetramer. By limiting the availability of nucleotide substrates, SAMHD1 can restrict reverse transcription by certain retroviruses. This mechanism is particularly important in nondividing immune cells, where low intracellular dNTP concentrations create an unfavorable environment for viral DNA synthesis. Some lentiviruses counteract this restriction through accessory proteins that promote SAMHD1 degradation.

The biological functions of SAMHD1 are regulated by phosphorylation and interactions with cellular signaling pathways. Phosphorylation at threonine 592 is associated with changes in its antiviral restriction activity, although the relationship between this modification, catalytic function, and cellular regulation remains complex. SAMHD1 also contributes to the maintenance of genome integrity through mechanisms associated with DNA replication, nucleotide balance, and responses to DNA damage. These functions connect nucleotide metabolism with broader processes governing cellular stability.

Pathogenic variants in SAMHD1 are associated with Aicardi-Goutieres syndrome, an inherited inflammatory disorder characterized by abnormal activation of interferon-related pathways. SAMHD1 alterations have also been identified in certain hematologic malignancies, including chronic lymphocytic leukemia. Its influence on nucleotide metabolism has attracted attention in cancer research because SAMHD1 activity can affect cellular responses to some nucleoside analog drugs. These relationships highlight the importance of SAMHD1 beyond its established role in antiviral defense.

SAMHD1 Antibody 10H8 supports investigation of the expression and cellular distribution of this multifunctional protein. Understanding the relationship between SAMHD1 abundance, phosphorylation, and catalytic activity is important for distinguishing its roles in nucleotide metabolism, immune regulation, and disease. Its contribution to both antiviral restriction and genome maintenance makes SAMHD1 an important component of cellular defense mechanisms.

Application Notes

Optimal dilution of the SAMHD1 Antibody 10H8 / SAMHD1 Mouse Monoclonal Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E37-M626) was used as the immunogen for the SAMHD1 antibody.

Storage

After reconstitution, the SAMHD1 antibody 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

SAM domain and HD domain-containing protein 1 antibody, Deoxynucleoside triphosphate triphosphohydrolase SAMHD1 antibody, Monocyte protein 5 antibody

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