SERPINA1 Antibody / Alpha 1 Antitrypsin / AAT [clone AAT/4613] (V4358)

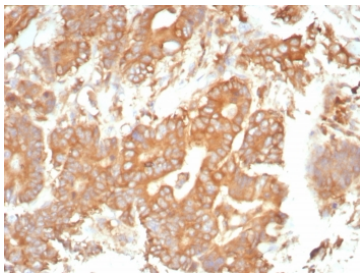
Catalog No.	Formulation	Size
V4358-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4358-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4358SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

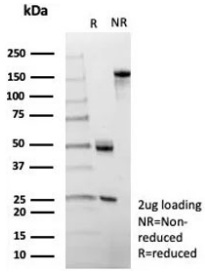
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	AAT/4613
Purity	Protein A/G affinity
UniProt	P01009
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This SERPINA1 antibody is available for research use only.



Analysis of a HuProt(TM) microarray containing more than 19,000 full-length human proteins using SERPINA1 antibody (AAT/4613). Z- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a mAb to its intended target. A mAb is considered to specific to its intended target, if the mAb has an S-score of at least 2.5. For example, if a mAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that mAb to protein X is equal to 29.



IHC staining of FFPE human prostate tissue with SERPINA1 antibody (clone AAT/4613). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free SERPINA1 antibody (clone AAT/4613) as confirmation of integrity and purity.

Description

SERPINA1 antibody, also known as Alpha 1 Antitrypsin antibody, recognizes a secreted serine protease inhibitor encoded by the SERPINA1 gene on chromosome 14q32.13. Alpha 1 Antitrypsin, commonly abbreviated as A1AT and also referred to as alpha-1 proteinase inhibitor, is a member of the serpin superfamily. It is primarily synthesized by hepatocytes and secreted into the bloodstream, where it circulates as a major inhibitor of neutrophil elastase and other proteolytic enzymes. In tissue sections, SERPINA1 is typically localized to the cytoplasm of hepatocytes and may also be detected in macrophages and inflammatory cells under certain conditions.

Alpha 1 Antitrypsin plays a crucial protective role in maintaining pulmonary tissue integrity. By inhibiting neutrophil elastase, it prevents excessive degradation of extracellular matrix components in the lung. SERPINA1 antibody is widely used in liver and pulmonary research to assess protein expression, detect intracellular accumulation, and evaluate inflammatory responses. In normal liver, cytoplasmic staining of hepatocytes reflects active synthesis and secretion of Alpha 1 Antitrypsin.

Structurally, Alpha 1 Antitrypsin is a glycosylated protein belonging to the clade A serpin family and contains a reactive center loop that enables irreversible binding to target proteases. Genetic variants of SERPINA1 can lead to protein misfolding, intracellular polymerization, and reduced circulating levels. Accumulation of mutant protein within hepatocytes is associated with characteristic inclusion bodies and may contribute to liver injury.

Deficiency of Alpha 1 Antitrypsin is associated with increased risk of emphysema, chronic obstructive pulmonary disease, and various liver disorders including hepatitis and cirrhosis. Altered expression patterns are also evaluated in inflammatory and neoplastic contexts. Clone AAT/4613 recognizes SERPINA1 and is suitable for detecting Alpha 1 Antitrypsin expression in relevant research applications.

Application Notes

Optimal dilution of the SERPINA1 antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 200-400) from the human protein was used as the immunogen for the SERPINA1 antibody.

Storage

Aliquot the SERPINA1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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