

Recombinant human PAI1 (mutated S338C) protein ab92773

[1 Image](#)

Description

Product name	Recombinant human PAI1 (mutated S338C) protein
Biological activity	Specific activity: > 95 percent active by uPA titration; 1 mole NBD / mole PAI1. Excitation: 490 nm; Emission profile: 520 nm – 600 nm. Binding of uPA or tPA results in increase of peak at 540 nm.
Purity	> 95 % SDS-PAGE. ab92773 is > 98% pure by SDS-PAGE.
Expression system	Escherichia coli
Accession	<u>P05121</u>
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Modifications	mutated S338C

Specifications

Our **Abpromise guarantee** covers the use of **ab92773** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Liquid
Additional notes	Protect from light. Solubility: > 2 mg/mL and < 5 mg/mL

ab92773 was created by mutagenesis of the P9 serine residue (Ser338) on the reactive center loop to cysteine. This then provided a free thiol group for incorporation of N,N'-dimethyl-N-(acetyl)-N'-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) (NBD), a fluorescent probe highly sensitive to changes in solvation and hydrophobic environment. The fluorescence emission of P9-NBD PAI1 is enhanced 6-7 fold upon insertion of the reactive center loop into beta-sheet A following complex formation with proteinases, formation of the latent species, or cleavage by elastase. The incorporated probe

is excited at 480 nm and displays a broad emission spectrum with a peak centered 542 nm with a resultant blue-shift to 520 nm following reactive center loop insertion. The modified PAI1 is nearly as active as wt PAI-1 and is more resistant to the spontaneous latency reaction making this an excellent tool for monitoring reaction rates of PAI1. ab92773 has been utilized in a number of studies to determine the rates of loop insertion and SERPIN reaction mechanisms when reacted with various proteinases, inactivating antibodies and conformational changes imposed by the binding of vitronectin.

Preparation and Storage

Stability and Storage

Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.

pH: 6.60

Constituents: 0.82% Sodium phosphate, 0.0292% EDTA, 0.58% Sodium chloride

This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

Function

This inhibitor acts as 'bait' for tissue plasminogen activator, urokinase, and protein C. Its rapid interaction with TPA may function as a major control point in the regulation of fibrinolysis.

Tissue specificity

Found in plasma and platelets and in endothelial, hepatoma and fibrosarcoma cells.

Involvement in disease

Defects in SERPINE1 are the cause of plasminogen activator inhibitor-1 deficiency (PAI-1D) [MIM:613329]. It is a hematologic disorder characterized by increased bleeding after trauma, injury, or surgery. Affected females have menorrhagia. The bleeding defect is due to increased fibrinolysis of fibrin blood clots due to deficiency of plasminogen activator inhibitor-1, which inhibits tissue and urinary activators of plasminogen.

Note=High concentrations of SERPINE1 seem to contribute to the development of venous but not arterial occlusions.

Sequence similarities

Belongs to the serpin family.

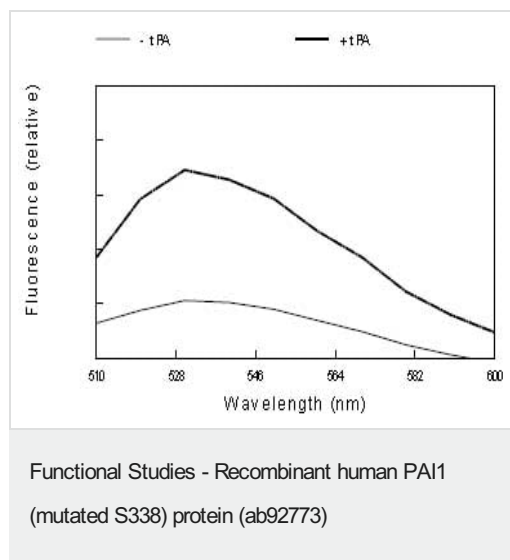
Post-translational modifications

Inactivated by proteolytic attack of the urokinase-type (u-PA) and the tissue-type (TPA), cleaving the 369-Arg-Met-370 bond.

Cellular localization

Secreted.

Images



Binding of uPA or tPA results in increase of peak at 540 nm.

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