# CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

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|---|---|---|---|
| **Product name** | PAI-1, Human, clone MA-33H1F7 | | |
| **Catalog number** | HM2179-20UG | | |
| **Lot number** | - | **Expiry date** | - |
| **Volume** | 200 µl | **Amount** | 20 µg |
| **Formulation** | 0.2 µm filtered in PBS+0.1%BSA | **Concentration** | 100 µg/ml |
| **Host Species** | Mouse IgG1 | **Conjugate** | None |
| **Endotoxin** | <24 EU/mg | **Purification** | Protein G |
| **Storage** | 4°C | | |

## Application notes

| | IHC-F | IHC-P | IF | FC | FS | IA | IP | W |
|---|---|---|---|---|---|---|---|---|
| Reference # | | | | | 1,2,4,6 | 1 | | 5 |
| Yes | | | | | • | • | | • |
| No | | | | | | | | |
| N.D. | • | • | • | • | | | • | |

*N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot*

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- W: A non-reduced sample treatment and SDS-Page was used. The band size is 52 kDa (Ref.5).
- FS: Antibody MA-33H1F7 functions as an antagonist. The antibody was incubated with active PAI-1 and residual activity was measured by a functional assay (Ref.1).

## General Information

**Description**

Plasminogen activator inhibitor type-1 (PAI-1), a member of the serine protease inhibitor (serpin) superfamily, is an important protein in the regulation of fibrinolysis. PAI-1 is unique among the serpins because of its functional and conformational flexibility. PAI-1 is the most important physiological inhibitor of both tissue-type plasminogen activator (t-PA) and urokinase-type plasminogen activator (u-PA). Increased PAI-1 levels are associated with thrombotic events and is an established risk factor for cardiovascular diseases. The active conformation PAI-1 inhibits its target proteinases by the formation of a stable, inactive complex. Although PAI-1 is synthesized as an active molecule, it converts spontaneously to an inactive, latent form that can be partially reactivated by denaturing agents. In addition, a third conformation reacting as a non-inhibitory substrate towards various target proteinases has been identified. The epitope (hF epitope) of monoclonal antibody MA-33H1F7 is predominantly composed of three residues ($Lys^{154}$/$Glu^{130}$/$Arg^{131}$), positioned virtually linearly in the three-dimensional structure. The epitope of the antibody does not cover the complete alpha-helix F and turn connecting alpha-helix F and beta-strand s3A, but is restricted to the hinge region between alpha-helix F and the main part of the PAI-1 molecule. The monoclonal antibody MA-33H1F7 is a 'switching' antibody, capable of inducing a non-inhibitory substrate form of PAI-1. It was shown to inhibit PAI-1 in a dose dependent manner.

**Immunogen**

Human PAI-1/t-PA complex

**Aliases**

PAI-1, endothelial plasminogen activator inhibitor, serpin E1, plasminogen activator inhibitor 1.

**Cross reactivity**

Mouse: Yes; Rat: Yes.

**References**


1. Debrock, S et al; Neutralization of plasminogen activator inhibitor-1 inhibitory properties: identification of two different mechanisms. Biochim Biophys Acta 1997, *1337*: 257
2. Berry, C et al; Antithrombotic activity of a monoclonal antibody inducing the substrate form of plasminogen activator inhibitor type 1 in rat models of venous and arterial thrombosis. Br J Pharm 1998, *125*: 29
3. Bijnens, A et al; Importance of the hinge region between alpha-helix F and the main part of serpins, based upon identification of the epitope of plasminogen activator inhibitor type 1 neutralizing antibodies. J Biol Chem 2000, *275*: 6375
4. Rupin, A et al; Inactivation of plasminogen activator inhibitor-1 accelerates thrombolysis of a platelet-rich thrombus in rat mesenteric arterioles. Thromb Haemst 2001, *86*: 1528
5. Sironi, L et al; Effect of valsartan on angiotensin II-induced plasminogen activator inhibitor-1 biosynthesis in arterial smooth muscle cells. J Am Heart Ass 2001, *37*: 961

6. Komissarov, A et al; Redirection of the reaction between activated protein C and a serpin to the substrate pathway. Thromb Res. 2008, *122*: 397

**Storage&stability** Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

**Precautions** For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

| Approved by Manager of QC | Date |
|---|---|
| Brenda Teunissen | 02/12/2020 |

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.