Revision 1

Store at -20C

#11907

PAI-1 (D9C4) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H Mk B	Endogenous	48	Rabbit IgG	#P05121	5054

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PAI-1 (D9C4) Rabbit mAb recognizes endogenous levels of total PAI-1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg294 of human PAI-1 protein.

Background

PAI-1 is a secreted protein that belongs to the serine proteinase inhibitor (serpin) superfamily. It inhibits urokinase and tissue plasminogen activators (uPA and tPA) and thus, reduces the conversion of inactive plasminogen to plasmin (1). PAI-1 regulates fibrinolysis and plays an important role in vessel patency and tissue remodeling. Secreted PAI-1 interacts with the extracellular matrix (ECM) component vitronectin, thereby modulating cell-ECM interactions (2,3). PAI-1 is expressed in a variety of tissues with higher expression in liver, vascular endothelial cells, platelets, macrophages, and adipose tissue (1). Increased levels of PAI-1 are associated with deep vein thrombosis (4). Defects in PAI-1 cause plasminogen activator inhibitor-1 deficiency (PAI-1D), which is characterized by increased bleeding after injury or surgery (5). Research studies have shown that high levels of PAI-1 are associated with obesity, aging, insulin resistance, and type 2 diabetes (6-8). PAI-1 is transcriptionally regulated by TGF-β and mediates TGF-β-induced inhibition of cell migration and invasion in cancer cells (9). Studies have also shown PAI-1 to be involved in fibrosis (10).

Background References

1. Pannekoek, H. et al. (1986) *EMBO J* 5, 2539-44.
2. Sigurdardottir, O. and Wiman, B. (1994) *Biochim Biophys Acta* 1208, 104-10.
3. Konstantinides, S. et al. (2001) *Circulation* 103, 576-83.
4. Baldwin, J.F. et al. (2012) *J Vasc Surg* 56, 1089-97.
5. Fay, W.P. et al. (1997) *Blood* 90, 204-8.
6. Pannacciulli, N. et al. (2002) *Obes Res* 10, 717-25.
7. Juhan-Vague, I. et al. (1991) *Diabetologia* 34, 457-62.
8. Hashimoto, Y. et al. (1987) *Thromb Res* 46, 625-33.
9. Humbert, L. and Lebrun, J.J. (2012) *Cell Signal* 25, 490-500.
10. Zhang, L.P. et al. (1999) *J Hepatol* 31, 703-11.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **Mk:** Monkey **B:** Bovine

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Limited Uses

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