

#### DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                                           |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human t-Plasminogen Activator/tPA in direct ELISAs and Western blots.                                                   |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                                                            |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                       |
| <b>Immunogen</b>                                                                                                                                                                                        | Chinese hamster ovary cell line CHO-derived recombinant human t-Plasminogen Activator/tPA<br>Ser36-Pro562<br>Accession # P00750 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                 |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                    |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                                                 |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

PLAT (Plasminogen activator; also tPA/Tissue Plasminogen Activator) is a 64-69 kDa extracellular glycoprotein that belongs to the peptidase S1 family of enzymes. It is secreted by diverse cell types such as fibroblasts, endothelial cells and astrocytes. Unlike many other serine proteases, PLAT/tPA circulates as an active proenzyme. Following clot formation, both tPA and its substrate, plasminogen, bind to clot fibrin. Here, tPA converts plasminogen to plasmin, an enzyme that subsequently degrades the fibrin matrix of the clot. Plasmin also cleaves local tPA, generating a disulfide-linked, two-chain tPA isoform whose activity is potentiated 5- to10-fold relative to the uncleaved form. tPA also cleaves PDGF-CC and activates MMP-9, suggesting an expanded role in vascular remodeling. Human PLAT/tPA is secreted as a 530 amino acid (aa) single chain polypeptide (aa 33-562). Depending upon its source, aa 33-35 or 33-38 may be removed in the circulation. PLAT contains one N-terminal fibronectin type I region (aa 39-81), an EGD-like domain (aa 82-120), a two kringle structures (127-208; 215-296) and a peptidase S1 domain (311-561). Plasmin cleaves PLAT/tPA between Arg310-Ile311, generating an active disulfide-linked heterodimeric molecule that contains chains of 35 kDa and 33 kDa, respectively. There are multiple isoform variants. One contains a three aa substitution for aa 1-40 coupled to a deletion of aa 79-208, a second shows a Gly substitution for aa 39-85, and a third possesses a 23 aa substitution for aa 269-562. Two additional isoforms shows a His substitution for aa 54-134, and a 25 aa substitution for aa 269-562, respectively. Over aa 36-562, human PLAT shares 81% aa sequence identity with mouse PLAT.

#### PRODUCT SPECIFIC NOTICES

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