Human u-Plasminogen Activator (uPA)/Urokinase Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1310

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human u-Plasminogen Activator in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human uPA Ser21-Leu432 Accession # P00749
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

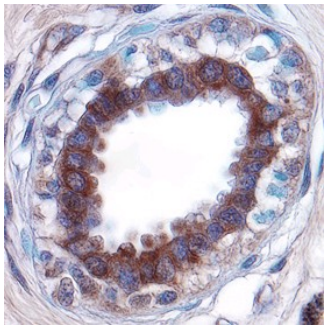
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human u-Plasminogen Activator (uPA)/Urokinase (Catalog # 1310-SE)
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human u-Plasminogen Activator (uPA)/Urokinase (Catalog # 1310-SE), see our available Western blot detection antibodies

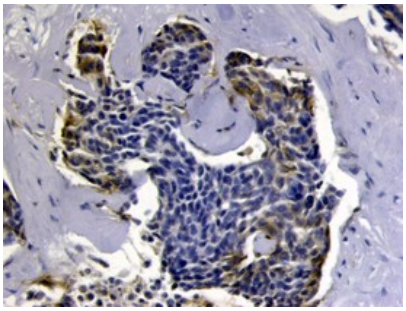
DATA

Immunohistochemistry



u-Plasminogen Activator (uPA)/ Urokinase in Human Breast Cancer Tissue.
u-Plasminogen Activator (uPA)/Urokinase was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Goat Anti-Human u-Plasminogen Activator (uPA)/Urokinase Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1310) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of immersion fixed paraffin-embedded Tissue Sections.

Immunohistochemistry



u-Plasminogen Activator (uPA)/Urokinase in Human Breast Cancer Tissue.
u-Plasminogen Activator (uPA)/Urokinase was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Goat Anti-Human u-Plasminogen Activator (uPA)/Urokinase Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1310) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

uPA is a serine protease with an extremely limited substrate specificity, cleaving the sequence Cys-Pro-Gly-Arg560-Val561-Val-Gly-Gly-Cys in plasminogen to form plasmin (1). uPA is a potent marker of invasion and metastasis in a variety of human cancers associated with breast, stomach, colon, bladder, ovary, brain, and endometrium (2). For example, the combination (both low vs. either or both high) of uPA and its inhibitor, plasminogen activator inhibitor-1 (PAI-1), outperforms the single factors as well as other traditional prognostic factors with regard to risk group assessment for breast cancer, particularly in node-negative breast cancer (3). The human uPA is initially synthesized as 431 amino acid precursor with a N-terminal signal peptide (20 residues) (4-6). The single chain molecule is processed into a disulfide-linked two-chain molecule. The B chain starting at Ile179 corresponds to the catalytic domain. Two forms of the A chain exist, one starting at Ser21 (the long form) and the other at Lys156 (the short form). The resulting two-chain forms have different molecular weights (MW). The B chain is common for both forms whereas the long and short A chains are unique to the high and low MW forms, respectively. The long A chain contains an EGF-like domain, which is responsible for binding of the uPA receptor (uPAR). Both high and low MW forms exist in the purified recombinant human uPA.

References:

1. Ellis, V. (2004) in *Handbook of Proteolytic Enzymes*. Barrett, A.J. *et al*. eds., Academic Press, San Diego, pp.1677.
2. Duffy, M.J. (2002) Biochem. Soc. Trans. **30**:207.
3. Harbeck, N. *et al*. (2002) Clin. Breast Cancer **3**:196.
4. Riccio, A. *et al*. (1985) Nucleic Acids Res. **13**:2785.
5. Nagai, M. *et al*. (1985) Gene **36**:183.
6. Jacobs, P. *et al*. (1985) DNA **4**:139.