Rat Urokinase / PLAU Protein (His Tag)

Catalog Number: **81600-R08H**

General Information

Gene Name Synonym:

PLAU

Protein Construction:

A DNA sequence encoding the rat Plau (NP_037217.3) (Met1-Phe432) was expressed with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > (58.4+39.8) % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per μg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gly 20

Molecular Mass:

The recombinant rat Plau consists 424 amino acids and predicts a molecular mass of 47.3 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

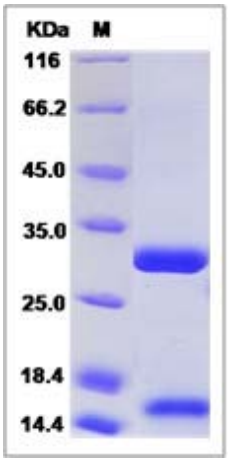
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Plasminogen activator, urokinase, also known as PLAU and uPA, is a serine protease which converts plasminogen to plasmin, a broad-spectrum protease active on extracellular matrix (ECM) components. It is involved in complement activation, cell migration, wound healing, and generation of localized extracellular proteolysis during tissue remodelling, pro-hormone conversion, carcinogenesis and neoplasia. Like many components of the blood coagulation, fibrinolytic and complement cascades, uPA has a modular structure, including three conserved domains: a growth factor-like domain (GFD, residues 1-49), a kringle domain (residues 50-131), linked by an interdomain linker or "connecting peptide" (CP, residues 132-158) to the serine protease domain (residues 159-411). uPA and its receptor (uPAR) have been implicated in a broad spectrum of pathophysiological processes, including fibrinolysis, proteolysis, inflammation, atherogenesis and plaque destabilization, all of which are involved in the pathogenesis of MI (myocardial infarction). The role of uPA is not only linked to its action as an enzyme. In fact, the mere binding of uPA on the cell surface also brings about two events that broaden the spectrum of its biological functions: (1) a conformational change of the receptor, which, in turn, affects its interaction with other proteins; (2) a signal transduction which modulates the expression of apoptosis-related genes. Besides its applications as a thrombolytic agent and as a prognostic marker for tumors, uPA may provide the basis for other therapies, as the structure of the receptor-binding domain of uPA has become a model for the design of anti-cancer molecules. Because of the causal involvment of uPA in cancer invasion and metastasis, the blockade of uPA interactions and activity with specific inhibitors is of interest for novel strategies in cancer therapy.

References

1.Crippa MP. (2007) Urokinase-type plasminogen activator. Int J Biochem Cell Biol. 39(4): 690-4. 2.Kunamneni A, *et al.* (2008) Urokinase-a very popular cardiovascular agent. Recent Pat Cardiovasc Drug Discov. 3(1): 45-58. 3.Vincenza Carriero M, *et al.* (2009) Structure, function and antagonists of urokinase-type plasminogen activator. Front Biosci. 14: 3782-94.