ZYMOGENS

Prothrombin

Human prothrombin

RUO -25°C -15°C

Associated products

Bovine prothrombin

Human prothrombin fragment 1

Human prothrombin fragment 1 – 2

Reference	Presentation	Format
9-HCP-0010	Vial	2 mg
9-HCP-0010-1	Vial	1 mg

Structure : 1 N-terminal Gla domain, 2 kringles domains and a protease domain.
Origin : Human Blood / Plasma
Formulation : 50 % Glycerol / H_2O (v/v)

MW(Da) : 72 000
Extinction coef. : 13.8
Isoelectric point : 4.7-4.9

Informations

A zymogen (or proenzyme) is an inactive enzyme precursor. A zymogen requires a biochemical change for it to become an active enzyme. A proenzyme or zymogen is a protein precursor of an enzyme which can give, after activation, an active enzyme. Factor II (FII) or prothrombin is a glycoprotein synthesized by the liver, zymogen of a serine protease. It is a vitamin K-dependent clotting factor. Its half-life is 50 to 120 hours. FII is activated by the prothrombinase thrombin complex which plays a central role in the coagulation process. It will transform fibrinogen into fibrin, amplify its own formation and activate the protein C, TAFI and platelet systems. There are constitutional deficits in FII which are very rare and acquired deficits which can be observed during antivitamin K treatment or deficiency in vitamin K, CIVD, anti-FII autoantibodies.

Advantages

The vast majority of zymogens is pure (without additives) with > 95 % purity SDS-PAGE.
No additive or preservative.

Characteristics

All proteins are accompanied by product information sheets which describe proper storage conditions. In order that we may warrant product stability, it is imperative that these storage conditions be maintained at all times. Many of our protein preparations are formulated in 50 % (vol / vol) glycerol/H_2O which will remain in fluid phase during storage at -20° C. This preferred method of storage yields the greatest protein stability while still allowing access to the stock protein sample without repeated thawing and freezing steps. All products which are formulated with either glycerol/H_2O or aqueous buffer are delivered in microcentrifuge tubes. By briefly centrifuging the samples in their original containers, complete recovery of the sample at the bottom of the tube will be accomplished. Temperatures lower than -30° C should be avoided in order to prevent a phase transition. When preparing to make a dilution of the stock sample, remove the sample from storage at -20° C and place on ice for a brief period of time (5-10 min). The sample will become less viscous and thus easier to pipette. Never allow protein solutions to remain at room temperature for excessive periods of time. Elevated temperatures may enhance the rate of protein degradation. Avoid storing or maintaining dilute protein samples for a long period of time. In general, purified proteins are inherently more stable in concentrated form. Many proteins are «sticky» by nature. To avoid losing protein due to adsorption, extremely dilute protein samples should be prepared in buffers containing excipients such as bovine serum albumin, polyethylene glycol, or gelatin.