

## Recombinant Mouse Coagulation Factor II/FII/F2 Protein (His Tag)

**Catalog Number:** PKSM040723

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

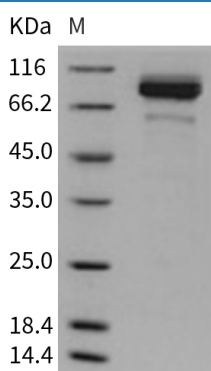
### Description

<b>Species</b>	Mouse
<b>Source</b>	HEK293 Cells-derived Mouse Coagulation Factor II/FII/F2 protein Met 1-Gly 618, with an C-terminal His
<b>Calculated MW</b>	69.3 kDa
<b>Observed MW</b>	85 kDa
<b>Accession</b>	NP_034298.1
<b>Bio-activity</b>	Measured by its ability to cleave the fluorogenic peptide substrate Boc-VPR-AMC R&D Systems, Catalog # ES011. The specific activity is > 2000 pmoles/min/μg. (Activation description: The proenzyme needs to be activated by Thermolysin for an activated form)

### Properties

<b>Purity</b>	> 96 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per μg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

### Data



> 96 % as determined by reducing SDS-PAGE.

### Background

### For Research Use Only

Coagulation Factor II Protein (FII, F2 Protein or Prothrombin) is proteolytically cleaved to form thrombin in the first step of the coagulation cascade which ultimately results in the stemming of blood loss. Coagulation Factor II Protein (FII, F2 Protein) also plays a role in maintaining vascular integrity during development and postnatal life. Prothrombin / Coagulation Factor II is activated on the surface of a phospholipid membrane that binds the amino end of prothrombin / Coagulation Factor II and factor Va and Xa in Ca-dependent interactions; factor Xa removes the activation peptide and cleaves the remaining part into light and heavy chains. The activation process starts slowly because factor V itself has to be activated by the initial, small amounts of thrombin. Prothrombin / Coagulation Factor II is expressed by the liver and secreted in plasma. Defects in prothrombin / Coagulation Factor II are the cause of factor II deficiency (FA2D). It is a very rare blood coagulation disorder characterized by mucocutaneous bleeding symptoms. The severity of the bleeding manifestations correlates with blood factor II levels. Defects in Coagulation Factor II are also a cause of susceptibility to thrombosis. It is a multifactorial disorder of hemostasis characterized by abnormal platelet aggregation in response to various agents and recurrent thrombi formation.