Prothrombin (PT) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Prothrombin (PT), ELISA Kit
Full Product Name	Human Prothrombin ELISA Kit
Product Gene Name	PT elisa kit
Species Reactivity	Human
Assay Type	Quantitative Sandwich
Detection Range	0.625ng/ml-20ng/ml
Sensitivity	0.1ng/ml
Preparation and Storage	Store all reagents at 2-8 degree C
Inter-assay Precision	Inter-assay CV (%) is less than 15%. [CV(%) = SD/mean ×100]. All CV% should be compared by concentration, not compared by OD values.
Intra-assay Precision	Intra-assay CV (%) is less than 15%.
Molecular Weight	70,037 Da
Chromosome Location	Chromosome: 11; NC_000011.9 (46740743..46761056). Location: 11p11
OMIM	176930
3D Structure	ModBase 3D Structure for P00734
Related Product Information for PT elisa kit	Background/Introduction: This Quantitative Sandwich ELISA kit is for lab reagent/research use only, not for drug, household, therapeutic or test applications! This kit is intended to be used to determine the level of PT (hereafter termed "analyte") in undiluted original Human serum, plasma or tissue homogenates samples. For other sample types please contact tech support to determine compatibility with this assay. This kit is not suitable for assaying non-biological sources of substances.
Other Notes	Small volumes of PT elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PT purchase	MBS006204 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Prothrombin (PT) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing PT. The ELISA analytical biochemical technique of the MBS006204 kit is based on PT antibody-PT antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect PT antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, PT. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PT. It may not necessarily be applicable to this product.

NCBI GI #	4503635
NCBI GeneID	2147
NCBI Accession #	NP_000497.1
UniProt Primary Accession #	P00734

UniProt Secondary Accession #	Q4QZ40; Q53H04; Q53H06; Q7Z7P3; Q9UCA1; B2R7F7; B4E1A7
UniProt Related Accession #	P00734
GenBank Nucleotide #	NM_000506.3
NCBI Official Full Name	prothrombin preproprotein
NCBI Official Synonym Full Names	coagulation factor II (thrombin)
NCBI Official Symbol	F2
NCBI Official Synonym Symbols	PT; THPH1; RPRGL2
UniProt Protein Name	Prothrombin
UniProt Synonym Protein Names	Coagulation factor II
Protein Family	Prothrombin
UniProt Gene Name	F2
UniProt Entry Name	THRB_HUMAN
NCBI Protein Information	prothrombin; serine protease; prothrombin B-chain; prepro-coagulation factor II
NCBI Summary for PT	Coagulation factor II is proteolytically cleaved to form thrombin in the first step of the coagulation cascade which ultimately results in the stemming of blood loss. F2 also plays a role in maintaining vascular integrity during development and postnatal life. Mutations in F2 leads to various forms of thrombosis and dysprothrombinemia. [provided by RefSeq, Jul 2008]

UniProt Comments for PT	prothrombin: Thrombin, which cleaves bonds after Arg and Lys, converts fibrinogen to fibrin and activates factors V, VII, VIII, XIII, and, in complex with thrombomodulin, protein C. Functions in blood homeostasis, inflammation and wound healing. Defects in F2 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. Genetic variations in F2 may be a cause of susceptibility to ischemic stroke (ISCHSTR); also known as cerebrovascular accident or cerebral infarction. A stroke is an acute neurologic event leading to death of neural tissue of the brain and resulting in loss of motor, sensory and/or cognitive function. Ischemic strokes, resulting from vascular occlusion, is considered to be a highly complex disease consisting of a group of heterogeneous disorders with multiple genetic and environmental risk factors. Defects in F2 are the cause of thrombophilia due to thrombin defect (THPH1). It is a multifactorial disorder of hemostasis characterized by abnormal platelet aggregation in response to various agents and recurrent thrombi formation. A common genetic variation in the 3-prime untranslated region of the prothrombin gene is associated with elevated plasma prothrombin levels and an increased risk of venous thrombosis. Defects in F2 are associated with susceptibility to pregnancy loss, recurrent, type 2 (RPRGL2). A common complication of pregnancy, resulting in spontaneous abortion before the fetus has reached viability. The term includes all miscarriages from the time of conception until 24 weeks of gestation. Recurrent pregnancy loss is defined as 3 or more consecutive spontaneous abortions. Belongs to the peptidase S1 family. Protein type: Secreted, signal peptide; Apoptosis; EC 3.4.21.5; Secreted; Protease Chromosomal Location of Human Ortholog: 11p11 Cellular Component: extracellular space; endoplasmic reticulum lumen; Golgi lumen; extracellular region; plasma membrane Molecular Function: protein binding; growth factor activity; serine-type endopeptidase activity; calcium ion binding; receptor binding Biological Process: positive regulation of blood coagulation; multicellular organismal development; positive regulation of collagen biosynthetic process; proteolysis; regulation of cell shape; negative regulation of fibrinolysis; cell surface receptor linked signal transduction; positive regulation of cell proliferation; response to wounding; acute-phase response; negative regulation of proteolysis; platelet activation; cytosolic calcium ion homeostasis; post-translational protein modification; peptidyl-glutamic acid carboxylation; positive regulation of cell growth; positive regulation of phosphoinositide 3-kinase cascade; fibrinolysis; cellular protein metabolic process; regulation of gene expression; negative regulation of astrocyte differentiation; regulation of blood coagulation; positive regulation of protein amino acid phosphorylation; positive regulation of release of sequestered calcium ion into cytosol; blood coagulation; leukocyte migration; blood coagulation, intrinsic pathway Disease: Thrombophilia Due To Thrombin Defect; Stroke, Ischemic; Prothrombin Deficiency, Congenital; Pregnancy Loss, Recurrent, Susceptibility To, 2
Research Articles on PT	**1.** Letter: Plasmin and the thrombin-thrombomodulin complex both contribute to thrombin-activatable fibrinolysis inhibitor activation in whole blood model thrombi.
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