abcam

Product datasheet

Factor X Human Chromogenic Activity Assay Kit ab108833

1 References 5 Images

Overview

Product name	Factor X Human Chromogenic Activity Assay Kit
Detection method	Colorimetric
Sample type	Cell culture supernatant, Plasma
Assay type	Enzyme activity (quantitative)
Sensitivity	= 0.009 µg/ml
Range	0.016 µg/ml - 4 µg/ml
Species reactivity	**Reacts with:** Human
Product overview	Factor X Human Chromogenic Activity Assay Kit (ab108833) is developed to determine human Factor X activity in plasma and cell culture. The assay measures the activation of zymogen Factor X to Factor Xa by RVV. The amidolytic activity of the Factor Xa is quantitated using a highly specific Factor Xa substrate releasing a yellow para-nitroaniline (pNA) chromophore. The change in absorbance of the pNA at 405 nm is directly proportional to the Factor X enzymatic activity. High level of FX activity samples: range of 0.125-8 µg/ml Low level of FX activity samples: range of 0.0156-1 µg/ml **The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.**
Notes	Factor X is a plasma serine protease zymogen involved in the blood coagulation cascade. Factor X is purified from plasma as a two-chain protein consisting of a 45-kDa heavy chain and a 17-kDa light chain. The Factor X heavy chain is cleaved during coagulation by several different proteases including the intrinsic Xase complex, the Factor X-activating enzyme from Russell's viper venom (RVV) and trypsin, and also by extrinsic (tissue Factor/Factor VIIa) pathway to give an active enzyme Factor Xa. Factor Xa as the activator of prothrombin occupies a central position linking the two blood coagulation pathways.
Platform	Microplate reader

Properties

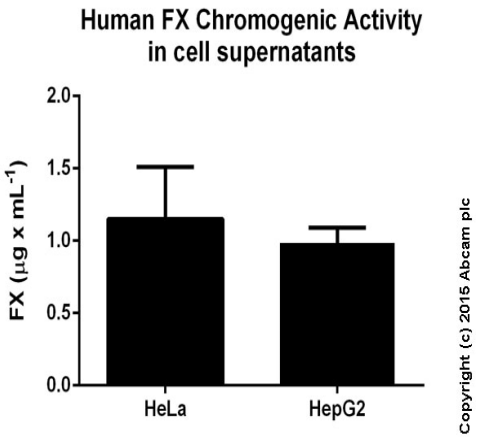
Properties

Storage instructions	Store at -20°C. Please refer to protocols.

Components	100 tests
Assay Diluent	1 x 5ml
Factor X Standard	1 unit
Factor Xa Substrate	2 vials
Microplate	1 unit
RVV	1 vial
Sample Diluent	1 x 5ml
Sealing Tapes	3 units

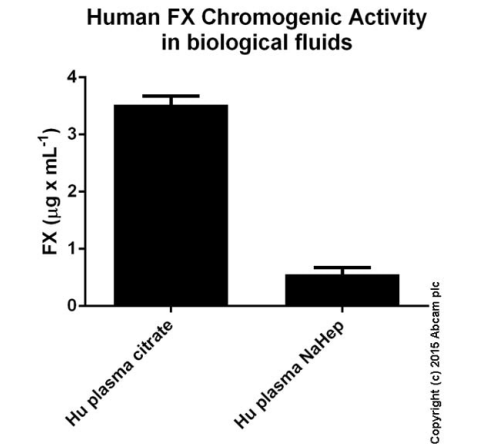
Function	Factor Xa is a vitamin K-dependent glycoprotein that converts prothrombin to thrombin in the presence of factor Va, calcium and phospholipid during blood clotting.
Tissue specificity	Plasma; synthesized in the liver.
Involvement in disease	Defects in F10 are the cause of factor X deficiency (FA10D) [MIM:227600]. A hemorrhagic disease with variable presentation. Affected individuals can manifest prolonged nasal and mucosal hemorrhage, menorrhagia, hematuria, and occasionally hemarthrosis. Some patients do not have clinical bleeding diathesis.
Sequence similarities	Belongs to the peptidase S1 family. Contains 2 EGF-like domains. Contains 1 Gla (gamma-carboxy-glutamate) domain. Contains 1 peptidase S1 domain.
Post-translational modifications	The vitamin K-dependent, enzymatic carboxylation of some glutamate residues allows the modified protein to bind calcium. N- and O-glycosylated. The activation peptide is cleaved by factor IXa (in the intrinsic pathway), or by factor VIIa (in the extrinsic pathway). The iron and 2-oxoglutarate dependent 3-hydroxylation of aspartate and asparagine is (R) stereospecific within EGF domains.
Cellular localization	Secreted.

Images



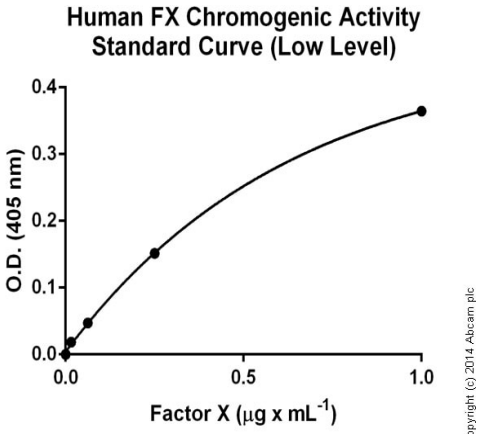
Functional Studies - Factor X Human Chromogenic Activity Assay Kit (ab108833)

Factor X Chromogenic Activity measured in cell culture supernatants showing quantity (ug) per mL of tested sample after 40 min of incubation. Values calculated based on Low Level Standard Curve. Samples were diluted 2-10 fold.



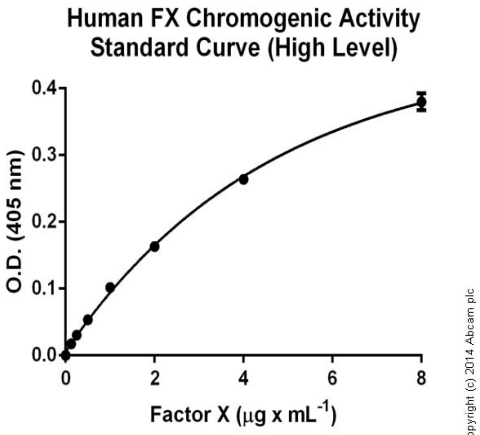
Functional Studies - Factor X Human Chromogenic Activity Assay Kit (ab108833)

Factor X Chromogenic Activity measured in biological fluids showing quantity (ug) per mL of tested sample after 10 min of incubation. Values calculated based on High Level Standard Curve. Samples were diluted 2 fold.



Functional Studies - Factor X Human Chromogenic Activity Assay Kit (ab108833)

Standard curve: mean of duplicates (+/- SD) with background reads subtracted



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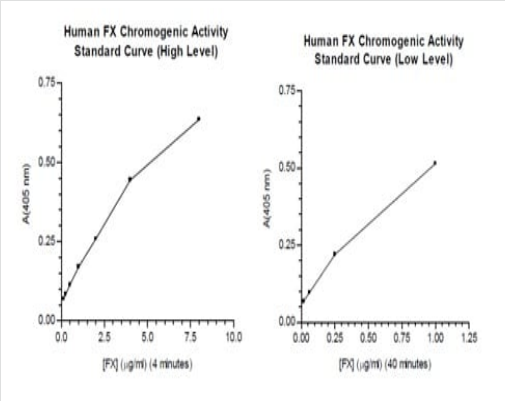
Standard curve: mean of duplicates (+/- SD) with background reads subtracted



Functional Studies - Factor X Human Chromogenic Activity Assay Kit - 1 x 96 wells plate (ab108833)

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