

Product number **T070**
Revision number **RN3.0**

Product Name	Human Factor XIIIa, thrombin-activated (hFXIIIa, active A subunit)
Synonym	Recombinant Fibrin stabilizing factor, protein-glutamine- γ -glutamyltransferase
Source	Recombinantly produced in insect cells. Activated by human Thrombin.
Quantity	50 μ g, 200 μ g, 1 mg
Purity	> 95% [by SDS-PAGE]
Molecular Weight	79 kDa (monomer); 158 kDa (homodimer)
Description	Recombinant human Factor XIII is a homodimer (A_2) composed of two chains held together by non covalent bonds. After activation of the zymogen by Thrombin and Ca^{2+} to its active form (Factor XIIIa), Factor XIIIa catalyzes the formation of covalent bridges (ϵ -(γ -glutamyl) lysine bonds) between fibrin units to increase the elasticity of the clot network. The resulting cross-linked fibrin is insoluble and resistant to lysis.
Application	hFXIIIa catalyzes acyl transfer reactions from glutamine residues in proteins or peptides to primary amines, e. g. the formation of ϵ -(γ -glutamyl) lysine bonds between proteins by transferring the acyl group of a peptide-bound glutamine residue to the primary amino group of a peptide-bound lysine residue.
Appearance	White lyophilized solid.
Reagents	The recombinant activated human Factor XIIIa is lyophilized from 50 mM Tris-HCl pH 8.0. Sample contains sucrose.
Reconstitution	Add the volume of water specified in the certificate of analysis under aliquotation to the vial of lyophilized powder. Rotate vial gently until solid dissolves. After reconstitution the solution should be stored frozen in working aliquots. For short term storage keep cooled on ice.
Storage	Store at -80°C . If storage at -80°C is not possible, storage at $\leq -20^\circ\text{C}$ is recommended. While no formal stability data are available at -20°C , according to our overall experience stability is still given. Upon reconstitution, store undiluted working aliquots preferably at -80°C (if not possible at $\leq -20^\circ\text{C}$, see comment above). Storage of diluted aliquots may result in severe activity loss. Avoid repeated freezing and thawing. <i>Delivery at ambient temperature is possible</i>
Reference(s)	Chrobok et al., PLoS One. 2018, 13:e0196433; Akbar et al., J. Med. Chem. 2017, 60:7910-27; de Jager, M. et al., Neuropathol. Appl. Neurobiol. 2016, 42, 255; Hamedani et al., Chem. Commun. 2015, 51, 1135-39; Böhm et al., J. Med. Chem. 2014, 57, 10355-65

Product Data Sheet



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Related products

- A101 FXIII-Assay Substance, Abz-NE(CAD-DNP)EQVSPLTLK-OH
- F001 FXIII-Assay Kit
- T007 Coagulation factor XIII, purified from human plasma
- T027 Human blood coagulation Factor XIII, recombinant
- T056 Human alpha thrombin, highly active
- T101 1,3,4,5-Tetramethyl-2[(2-oxo-propyl)thio] imidazolium chloride
- A016 Polyclonal antibody to human blood coagulation factor XIII (A-subunit)

Release date 17 December 2021

NOTE INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.