

Product number **T063**  
Revision number **RN3.0**

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<b>Product Name</b>	Human blood coagulation Factor XIII-A <sub>2</sub> , Val34Leu-mutant (hFXIIIVal34Leu, A subunit)
<b>Synonym</b>	Recombinant Fibrin stabilizing factor, protein-glutamine- $\gamma$ -glutamyltransferase
<b>Source</b>	Recombinantly produced in insect cells
<b>Quantity</b>	200 $\mu$ g
<b>Purity</b>	> 95% [by SDS-PAGE]
<b>Molecular Weight</b>	83 kDa (monomer); 166 kDa (homodimer)
<b>Description</b>	<p>Recombinant human Factor XIII-Val34Leu is a homodimer (<math>\alpha_2</math>) composed of two chains held together by non covalent bonds. After activation of the zymogen by Thrombin and <math>\text{Ca}^{2+}</math> to its active form (<math>\alpha^*_2</math>, Factor XIIIa), Factor XIIIa Val34Leu catalyzes the formation of covalent bridges (<math>\epsilon</math>-(<math>\gamma</math>-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.</p> <p>At position 34 Valine has been replaced by Leucine. Please note that numerotation corresponds to the wild type protein without hexahistidine-tag.</p>
<b>Application</b>	rhFXIIIa-Val34Leu catalyzes acyl transfer reactions from glutamin residues in proteins or peptides to primary amines, e. g. the formation of $\epsilon$ -( $\gamma$ -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.
<b>Appearance</b>	White lyophilized solid.
<b>Storage</b>	Storage for several months is possible at $\leq -20^\circ\text{C}$ . <b><i>Delivery is possible at ambient temperature</i></b>
<b>Reagents</b>	The recombinant human Factor XIII-Val34Leu is lyophilized from 20 mM Tris-HCl pH 7.5, 150 mM NaCl, 1 mM EDTA, 1 mM DTT. Sample contains maltodextrin.
<b>Reconstitution</b>	Add the volume of H <sub>2</sub> O the protein is lyophilized from (see Certificate of Analysis) to the vial of lyophilized powder. Rotate vial gently until solid dissolves. After reconstitution the solution should be stored frozen in working aliquots. Keep cooled on ice for short term storage.
<b>Related products</b>	A101 FXIII-Assay Substance, Abz-NE(CAD-DNP)EQVSPLTLK-OH F001 FXIII-Assay Kit T027 Coagulation factor XIII, purified from human plasma T007 Human blood coagulation Factor XIII, recombinant T101 1,3,4,5-Tetramethyl-2[(2-oxo-propyl)thio] imidazolium chloride A016 Polyclonal antibody to human blood coagulation factor XIII (A-subunit)
<b>Reference(s)</b>	Heil et al., Thromb. Res. 2013, 131, e214–e22 Hess et al., PLoS ONE 2012, 7(4): e35690
<b>Release date</b>	23 December 2021
<b>NOTE</b>	INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.