

Tissue Factor

Product specification

Acronym: TF

Class: Enzyme

Origin: Human

Molecular weight: 33 kDa

Application: In vitro diagnostic

Purity: >75%

Activity: Proven

Length: Full Length

TMD: 1

Biological function: Blood coagulation

Product description

Initiates blood coagulation by forming a complex with circulating factor VII or VIIa. The [TF:VIIa] complex activates factors IX or X by specific limited protolysis. TF plays a role in normal hemostasis by initiating the cell-surface assembly and propagation of the coagulation protease cascade.

Protein Source: TF wild type protein

Fig. 1: AA sequence of TF protein

10	20	30	40	50
MCTPAWPRVP	RPETAVARTL	LLGWVFAQVA	GASCTTNTVA	AYNLTWKSTN
60	70	80	90	100
FKTILEWEIPK	PYNQVYIVQI	SIKSGDWKSK	CFYITDTECD	LIDEIVKDVK
110	120	130	140	150
QTYLARVFSY	PAGNVESTGS	AGEPLYENSP	EFTPYLETNL	GQPTIQSFEQ
160	170	180	190	200
VGTKVNVTV	DERTLVRNN	TFLSLRDVFG	KDLIYTLYYW	KSSSSGKKA
210	220	230	240	250
KTNTNEFLID	VDKGENYCFS	VQAVIPSRIV	NRKSTDSPVE	CHGQEKGEFR
260	270	280	290	
EIFYIIGAVV	FVVIILVIL	NISLHKCRKA	GVGQSNKENS	PLNVS

Affinity Tag: Histidine tag fused to the N-terminal end of the protein.

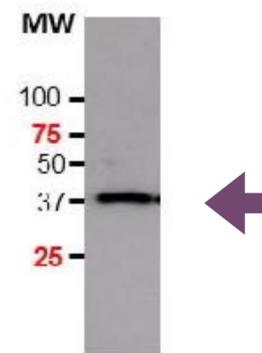
Production conditions: TF is expressed in a cell-free expression system in the presence of lipid vesicles. 100 µg can be produced and qualified in about 1 week.

Quality analysis

Purity: Typically >75% as determined by SDS-Page and Coomassie Blue staining.

Purification procedure: As standard, TF proteoliposomes are purified on a sucrose gradient. Further purification steps can be added if required.

Fig.2: Proteoliposome TF after purification (Coomassie Blue quantification and Western blot identification)



Assessment of functionality

Cell-free expression systems provide a real alternative for membrane protein expression, enabling the study of structure and function of membrane proteins.

Methods: Procoagulant activity test.

Results:

The clot formation is detected optically by a coagulation instrument. The time between the addition of the TF and the clot formation is recorded as the thrombin clotting time.

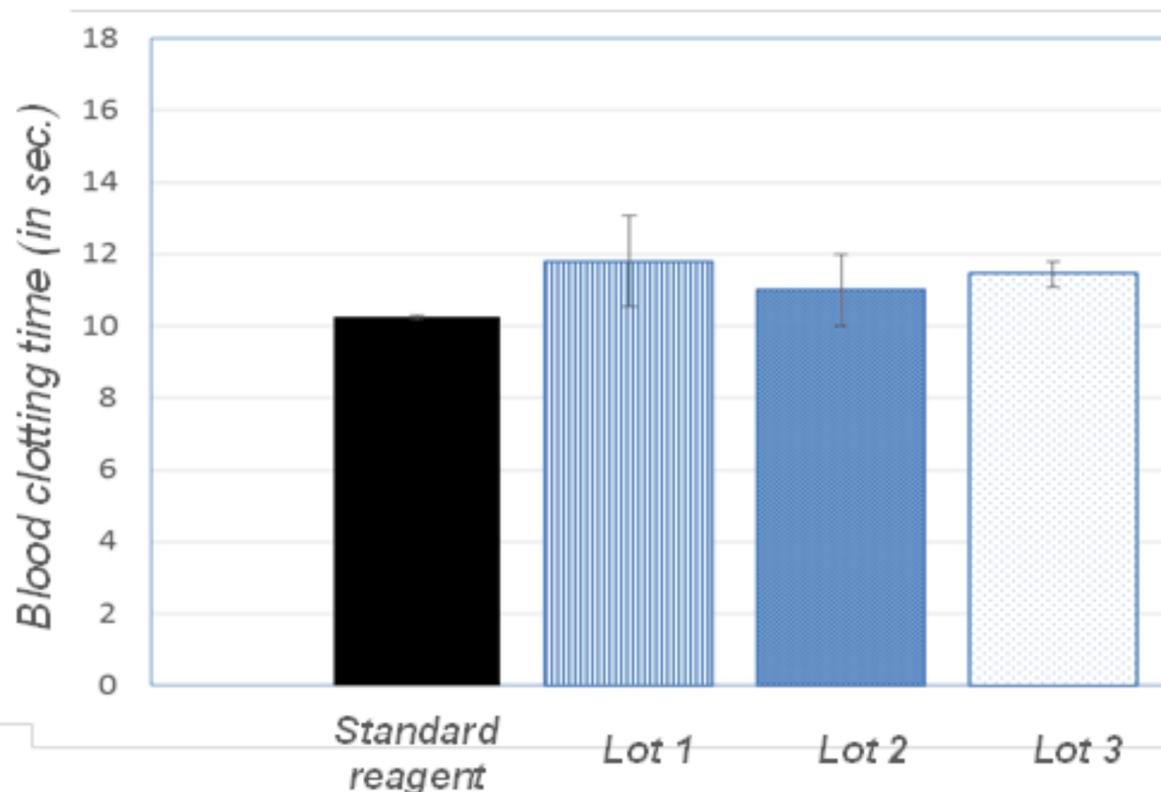


Fig.3: Procoagulant activity test of the TF proteoliposomes.

Formulation

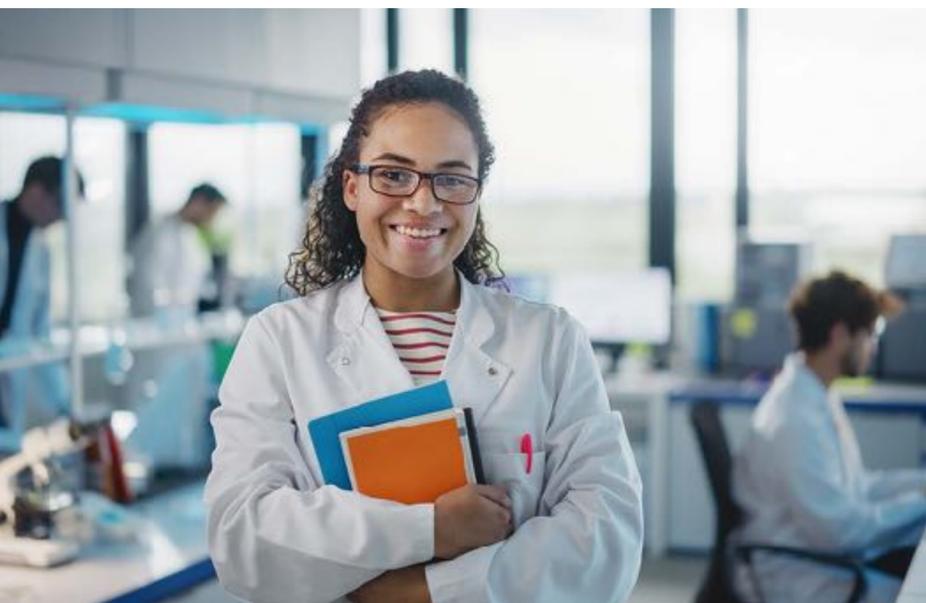
Buffer: Available in Tris 50mM, pH 7.5. Other buffers or customized formulation can be provided upon request.

Customized Hydrophobic matrix: Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

Storage/Stability: Store at +4°C for up to one week or several months at -80°C. Aliquot for storage. Do not freeze-thaw after aliquoting.

Use restrictions: For life science research use only.

Available sizes: 10µg, 20µg, 50µg, 100 µg, 200µg, 500 µg, bulk



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