

# Clotting factors

**Clotting factors** are proteins that circulate in plasma in an **inactive state**. Their main function is to enable **hemocoagulation** (blood clotting). Most of them are produced by the liver.

Factor	Name <i>Alternative name</i>	Function
I	fibrinogen	cleavage of several peptides produces monomeric fibrin, which further forms a fibrin network
II*	prothrombin	its active form (IIa) activates factors I, V, VII, VIII, XI, XIII, protein C and platelets
III	tissue thromboplastin <i>tissue factor</i>	factor VIIa cofactor
IV	Ca <sup>2+</sup>	binding of coagulation factors to phospholipids
V	proaccelerin, <i>labile factor</i> , <i>accelerating globulin</i>	factor X cofactor - ensure the conversion of prothrombin into active thrombin
VI	older name for factor Va	-
VII*	proconvertin	activates factors IX, X
VIII	antihemophilic factor (AHF) antihemophilic factor A - antihemophilic globulin (AHG)	factor IX cofactor
IX*	The Christmas factor plasma thromboplastin component (PTC) - antihemophilic factor B	activates factor X
X*	Stuart-Prower factor**	activates factor II
XI	plasma precursor of thromboplastin plasma thromboplastin antecedent (PTA) - antihemophilic factor C	activates factor IX
XII	The Hageman factor <i>glass factor</i>	activates factor XI, VII and prekallikrein
XIII	fibrin stabilizing factor <i>Laki-Lorand factor</i>	
	von Willebrand factor	binds to factor VIII, enables platelet adhesion
	high molecular weight kininogen (HMWK) <i>Fitzgerald Factor</i>	supports the mutual activation of XII, XI and prekallikrein
	prekallikrein (PKK) <i>Fletcher factor</i>	activates factor XII and prekallikrein, cleaves HMWK
	kallikrein	
	platelet phospholipids	

\* vitamin K dependent

\*\* named after the first two patients (Mr R. Stuart and Miss A. Prower) in whom factor X deficiency was described

## Links

### Related articles

- Hemocoagulation

- Blood Clotting Test
- Vitamin K-dependent coagulation factors

## **Bibliography**

- GANONG, William F. *Přehled lékařské fyziologie*. 20. edition. Galén, 2005. pp. 546–549. ISBN 80-7262-311-7.
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