

Factor Va, Human Plasma

CATALOG NO:	4098-10	10 µg
	4098-50	50 µg
SOURCE:	Human plasma (Prepared from plasma shown to be non-reactive for HbsAG, anti-HCV, anti-HBc, and negative for anti-HIV 1 & 2 by FDA approved tests.)	
MOL. WEIGHT:	~ 168 kDa. (94.0 kDa (heavy chain), 74.0 kDa light chain)	
E. COEFFICIENT (1%):	17.4	
PURITY:	≥95% by SDS-PAGE	
FORM:	Liquid in 5 mM CaCl ₂ +50% glycerol	
FORMULATION:	In 5 mM CaCl ₂ +50% glycerol	
STORAGE CONDITIONS:	The product is best-stored in working aliquots at -20° C. Avoid freeze-thaw cycles	

DESCRIPTION:

Factor Va is a cofactor for the serine protease factor Xa, and in the presence of calcium ions they collectively assemble on a phospholipid surface to form the prothrombinase complex. The prothrombinase complex is responsible for the rapid conversion of prothrombin to thrombin. Factor Va is derived from the pro-cofactor, factor V, upon limited proteolysis by alpha-thrombin. The thrombin cleavage of factor V liberates two heavily glycosylated activation peptides from the central portion of the molecule which have no cofactor function. Factor Va is comprised of an NH₂-terminal derived heavy chain (Mr=94,000) and a COOH-terminal derived light chain (Mr=74,000) which remain associated in the presence of calcium ions. The cofactor binds to phospholipid (cell membrane) surfaces and effectively serves as a receptor for membrane bound factor Xa. Complete assembly of the prothrombinase complex (factor Xa, factor Va, phospholipid, and calcium) results in a 300,000-fold increase in the rate of prothrombin conversion relative to the rate observed with factor Xa alone. The interaction between factor Va and factor Xa is mediated by both the heavy and light chain of factor Va, while the binding of prothrombin to factor Va is mediated solely by the heavy chain.



Load: Human Factor Va, 1 µg/lane. Standard: Myosin (191 kDa), Phosphorylase B (97 kDa), BSA (64 kDa), Glutamic Dehydrogenase (51 kDa), Alcohol Dehydrogenase (39 kDa), Carbonic Anhydrase (28 kDa), Myoglobin Red (19 kDa), Lysozyme (14 kDa)
Factor V is a very labile protein. Some degraded fragments are usually noticeable in preparations.

RELATED PRODUCTS:

- Factor VII, Human Plasma (**Cat. No. 7686-100**)
- Factor VIIa, Human Plasma (**Cat. No. 7687-100**)
- Factor X, Human Plasma (**Cat. No. 7688-400**)
- Factor Xa, Human Plasma (**Cat. No. 7689-400**)
- Factor XII, Human Plasma (**Cat. No. 7690-250**)
- Factor XIIa, Human Plasma (**Cat. No. 7691-250**)

FOR RESEARCH USE ONLY! Not to be used in humans.