

Description	Precipitating polyclonal rabbit antiserum to human coagulation factor VII	
Product code	RAHu/FVII	
Biological origin	Rabbit	
Physical form	Delipidated, heat inactivated, lyophilized, stable whole serum.	
Preservative	Sodium azide, 1 mg/ml	
Immunogen	<p>Plasma factor VII is a vitamin K-dependent glycoprotein (MW 63,000) with an electrophoresis mobility in the beta region. It circulates in plasma in a semi-active form, even in the absence of tissue factor. Then procoagulant activity of FVII can be destroyed by heating to 56°C. It is unstable below pH 3 and above pH 9. It survives the clotting process and its presence can be demonstrated in serum. After isolation its molecular weight was 44,700. Factor VII is a serine protease depending on a lipid cofactor and can be activated to FVIIa by factors IXa, Xa and XIIIa, thereby linking the intrinsic and extrinsic coagulation systems since FXII and FIX can be activated by kallikrein.</p> <p>The normal adult plasma FVII level is about 0.5 to 1.0 µg/ml. In normal newborn infants the average level is about 50% of the adult concentration. A deficiency of FVII, congenital or acquired, results in a bleeding disorder. The congenital form is rare but the acquired form is commonly seen in association with a deficiency of FII, FIX and FX in liver disease and in patients taking coumarin-type anticoagulant drugs. Both procoagulant activity and FVII-related antigen are depressed. In haemorrhagic disease of the newborn, procoagulant activity is reduced but not the level of the FVII antigen. A similar discrepancy may be seen in congenital deficiencies but in other types FVII antigen will be severely reduced as a result of genetic suppression of synthesis capacity. If still present, the FVII molecules appear to be biologically defective. Heterozygote carriers can now be detected.</p> <p>FVII procoagulant activity and related antigen levels have been shown to correlate directly with the plasma triglyceride concentration. This makes FVII a risk factor for myocardial infarction; immediately following an acute myocardial infarction patients have increased plasma FVII procoagulant activity. FVII is purified from plasma and Freund's complete adjuvant is used in the first step of the immunization procedure.</p>	
Adsorption	Immunoaffinity adsorbed using insolubilized antigens as required, to eliminate antibodies reacting with other human serum proteins. The use of insolubilized adsorption antigens prevents the presence of excess adsorbent protein or immune complexes in the antiserum.	
Identity & Specificity	The defined antibody reactivity is restricted to Factor VII. To demonstrate the presence of FVII in normal plasma or serum by gel-immunodiffusion or immunoelectrophoresis a concentrate must be prepared, because the normal concentration is below the detection limits of these techniques. The precipitation obtained with the concentrate shows a reaction of identity with that obtained with the purified factor. FVII shows micro-heterogeneity. The antiserum also reacts with FVII molecular variants and with abnormal; molecules (PIVKA VII).	
Cross-reactivity	The antiserum does not cross-react with any other human plasma proteins as tested in gel-diffusion techniques. Inter-species cross-reactivity is a normal feature of antibodies to plasma proteins, since homologous proteins of different species frequently share antigenic determinants. Cross-reactivity of this antiserum has not been tested in detail, however in double radial immunodiffusion a reaction with Rhesus monkey has been observed.	
Protein concentration	Total protein and IgG concentrations in the antiserum are comparable to those of pooled normal rabbit serum. No foreign proteins added.	
Antibody titre	The amount of Factor VII precipitated by 1 ml antiserum is approximately 100 U. One Unit of Factor VII is defined as the amount present in 1 ml normal plasma. On the average this corresponds to 1 µg/ml.	
Intended use	<p>In precipitating techniques as electroimmunodiffusion, immunoelectrophoresis, single and double radial immunodiffusion (Mancini, Ouchterlony), bidimensional electrophoresis and neutralization assay.</p> <p>The presence of non-precipitating antibodies has not been assayed. If used in more sensitive test procedures or as catching or detection antibody in solid phase immunoassays specificity controls should always be included. Plasma samples and all assay components must contain EDTA to stabilize the proteins.</p>	
Directions for use	<p>In immunoelectrophoresis in agarose-plates use 2 µl human plasma or equivalent against 120 µl antiserum. In double radial immunodiffusion use a rosette arrangement with 10 µl antiserum in 3 mm diameter center well and 2 µl plasma samples (neat and serially diluted) in 2 mm diameter peripheral wells. In electroimmunodiffusion the antiserum concentration required in the gel is normally between 1 and 2%.</p>	
Packing	Vial with 1 ml lyophilized antiserum.	
Storage / shelf life	Lyophilized at +4°C	at least 10 years
	reconstituted at or below -20°C	3-5 years
	reconstituted at +4°C	7 days
Handling	<p>The lyophilized antiserum is shipped at ambient temperature and may be stored at +4°C; prolonged storage at or below -20°C. Reconstitute the lyophilized antiserum by adding 1 ml sterile distilled water. Dilutions may be prepared by adding phosphate buffered saline (PBS, pH 7.2). Repeated thawing and freezing should be avoided. If a slight precipitation occurs upon storage, this should be removed by centrifugation. It will not affect the performance of the antiserum.</p> <p>Diluted antiserum should be stored at +4°C, not refrozen, and preferably used the same day.</p>	
Caution	This antiserum should be handled by qualified persons only and appropriate precautions should be taken in its handling and disposal, and of all associated materials. For <i>in vitro</i> research purposes only.	

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