PENTAPHARM

RVV-V

Description: RVV-V is a specific factor V activator from Russell's viper venom. RVV-V is a serine proteinase, which converts the single-chain coagulation factor V into a light chain (80'000 g/mol) and a heavy chain (230'000 g/mol) with higher coagulant activity (factor Va). Apart from factor V, no other protein substrate for RVV-V is known. The amino acid sequence is 68% identical to that of batroxobin and 33% to that of the β-chain of human thrombin.

Application: Activated factor V is not stable and loses its activity within 20 hours at 37° C. Therefore, RVV-V is used to destabilize and selectively inactivate factor V in plasma and thus to prepare a routine reagent for the factor V determination.

Origin: *Vipera russelli* snake venom **MW:** approx. 28'000

Storage: May be used by the expiry date given on the label when stored unopened, protected from moisture, in the dark, 2°-8°C. Avoid contamination of the reagents by micro-organisms. Shipment of product does not require cooling during the time of transportation.

Activity : A series of dilutions is prepared from the RVV-V sample. 1.0 ml of normal plasma is incubated with 1 µl of RVV-V dilution for 3 min at 37° C. The incubate is diluted 1:100 in barbital buffer and measured using in the following coagulation test:

50 µl factor V-free plasma
50 µl incubate diluted
100 µl Thromboplastin-reagent containing calcium
=> determine clotting time at 37° C

The factor V activation is complete when increasing the RVV-V concentration does no more lead to a further shortening of the clotting time.

Unit definition: One unit (U) is the activity of RVV-V required for complete activation of the factor V contained in 1 ml of normal plasma.

References:

Kisiel W, Canfield WM. Snake venom proteases that activate blood coagulation factor V. Methods Enzymol 1981; 80: 275-85.

Conrad BGB.
Herstellung Faktor V-freien Plasmas.
PH. D. Thesis, University of Basel, 1988.

Tokunaga F, Nagasawa K, Tamura S, Miyata T, Iwanaga S, Kisiel W.
The factor V-activating enzyme (RVV-V) from Russell's viper venom. Identification of isoproteins RVV-V alpha, -V beta, and –V gamma and their amino acid sequences. J Biol Chem 1988; 263: 17471-81.

Package size: Vial containing 1000 U **Code:** 121-03

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