



## Your specialist in Snake Venom Enzymes

- More than 60 years of experience in snake venom enzymes
- Inventor and manufacturer of Protac®
- All relevant venom based activators for coagulation and platelet aggregation:
  - Batroxobin      – Ecarin
  - Protac®        – RVV-V
  - RVV-X          – Convulxin
- Venom production in own unit, housing thousands of snakes
- Production of active pharmaceutical ingredients from snake venom



pentapharm



FOR MORE  
DETAILS  
CLICK HERE



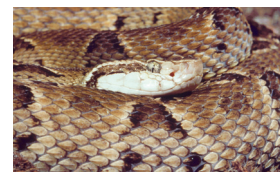
## Natural activators derived from snake venoms

Coagulation factors in plasma are usually inactive and require a proteolytic activation as the first step in a clotting or chromo-genic assay. In the activation of coagulation factors highly purified and specific snake venom enzymes outperform most other, often non-physiological activators. In contrast to these other activators most snake venom enzymes are not dependent on cofactors, phospholipids and calcium ions allowing the efficient development of more simple but highly specific assays.

### Activators of coagulation factors

#### Batroxobin

- Source: Bothrops atrox (Brazilian lancehead)
- Used to determine fibrinogen in plasma and in Reptilase®-Time assays
- Splits the  $\alpha$ -chain of fibrinogen releasing fibrinopeptide A and leading to clot formation



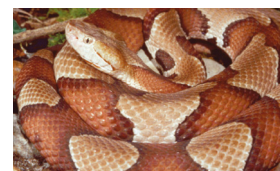
#### Ecarin

- Source: Echis carinatus (Saw-scaled viper)
- Used in prothrombin assays and for the determination of hirudin
- Activates specifically prothrombin via meizothrombin



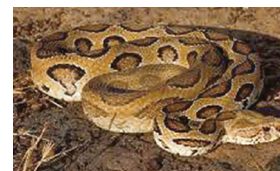
#### Protac®

- Source: Agkistrodon contortrix (Copperhead snake)
- Used in for the determination of protein C and protein S in related assays
- Rapidly converts protein C of humans and other vertebrates into activated protein C



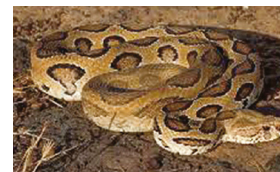
#### RVV-V

- Source: Daboia russelli (Russell's viper)
- Used in Pefakit® APC-R and Pefaclot® UFH
- Activates specifically Factor V, is not inhibited by anti-thrombin



#### RVV-X

- Source: Daboia russelli (Russell's viper)
- Used for the determination of factor X and in screening assays for Lupus anti-coagulants (dRVVT)
- Quantitatively converts factor X into factor Xa, weakly activates protein C and factor IX



### Activators of platelet aggregation

#### Convulxin

- Source: Crotalus durissus (South American rattlesnake)
- Used in platelet aggregation tests
- Activates human platelets via binding and clustering of GPVI-receptors under physiological conditions



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