

Protac®

Description: Protac®, a single chain glycoprotein, is a fast-acting protein C activator isolated from the venom of the copperhead snake *Agkistrodon contortrix* and closely related snake species. This serine proteinase rapidly converts protein C of man and other vertebrates into activated protein C which may be determined either by measuring its prolonging effect on the activated partial thromboplastin time (APTT) or by measuring its enzyme activity by means of a specific chromogenic substrate.

Application: Determination of protein C and protein S levels.

Origin: *Agkistrodon contortrix* snake venom

MW: 36'000 to 42'000

Assay: Chromogenic method

Clotting method

0.050 ml human citrated plasma
0.050 ml Protac® (0.5 unit/ml)
=> incubate for 5 min at 37°C
0.800 ml 50 mM Tris-HCl buffer, pH 8.4
0.100 ml Pefachrome®PCa (4 mM)
=> Determination of ΔOD/min at 405 nm

0.025 ml human citrated plasma
0.025 ml Protac® (0.1 unit/ml)
0.025 ml Actin®
=> incubate for 4 min at 37°C
0.025 ml 25 mM CaCl₂
=> Determination of clotting time

Unit definition: 1 Unit is the amount of Protac® which activates the amount of protein C contained in 1 ml of normal citrated human plasma within 5 min at 37°C.

Stability: Lyophilised vials: 5 years
Reconstituted vials: 30 days at 2 – 8°C, approx. 7 days at 37°C
1 year at -20°C, 1 month at 20°C.

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.

References: Bastian S. Protein C-Diagnostik – Methoden, Interpretation und Limitationen. ellipse 2002; 18 (1): 11-16

Gempeler-Messina PM, Volz K, Bühler B, Müller C. Protein C Activators from Snake Venoms and Their Diagnostic Use. Haemostasis 2001; 31:266-72.

Robert A, Eschwege V, Hameg H, Drouet L, Aillaud MF. Anticoagulant response to *Agkistrodon contortrix* venom (ACV test): a new global test to screen for defects in the anticoagulant protein C pathway. Thromb Haemost 1996; 75: 562-66.

Kraus M, Noah M, Fickenscher K. The PCAT - a simple screening assay for assessing the functionality of the protein C anticoagulant pathway. Thromb Res 1995; 79: 217-22.

Meier J, Stocker K. Snake venom protein C activators. In: Handbook of Natural Toxins, Reptile Venoms and Toxins. Tu AT, ed. New York: Marcel Dekker 1990; 265-79.

Stocker K, Fischer H, Meier J, Brogli M, Svendsen L. Characterization of the protein C activator Protac® from the venom of the southern copperhead (*Agkistrodon contortrix*) snake. Toxicon

Package size: Vial containing 3 unit/vial

Code: 113-01

FOR RESEARCH USE ONLY. NOT FOR HUMAN USE OR DRUG USE.