

Specification

Aprotinin BioChemica**A2132**

Synonym	Trasylol®
state of matter	Solid
origin	from bovine lung
Formula	$C_{284}H_{432}N_{84}O_{79}S_7$
M	6511.52 g/mol
CAS-No.:	9087-70-1
HS-No.:	35040090
Storage:	2-8°C
LGK:	10 - 13
WGK:	1
	® registered trademark of Bayer AG
Specification	
Assay (Protein)	min. 90 %
Activity (KIU/mg)	min. 5500
pH (1 %; H₂O)	5.0 - 7.5
Water (K.F.)	max. 6 %
Literature	
	<p>(1) Kassell, B. & Laskowski, Sr., M. (1965) <i>Biochem. Biophys. Res. Com.</i> 20, 463-468. The basic Trypsin inhibitor of bovine pancreas: V. The disulfide linkages.</p> <p>(2) Kassell, B. (1970) <i>Methods Enzymol.</i> 19, 844-852 Bovine Trypsin-Kallikrein inhibitor (Kunitz Inhibitor, Basic Pancreatic Trypsin Inhibitor, Polyvalent Inhibitor from Bovine Organs).</p> <p>(3) Fritz, H. & Wunderer, G. (1983) <i>Drug Res.</i> 33, 479-494 Biochemistry and application of Aprotinin, the Kallikrein inhibitor from bovine organs.</p>

Specification

Aprotinin BioChemica

A2132

Comment

Aprotinin was isolated independently from two laboratories and originally named *Bovine Pancreatic Trypsin Inhibitor* (BPTI) and *Trypsin-kallikrein Inhibitor* (TKI). It is a strongly basic protein (58 amino acids; ref. 1, 2). Aprotinin inhibits trypsin, chymotrypsin, kallikrein from different sources and plasmin. Its recommended working concentration is 2 - 10 µg/ml (approx. 1 µM). The working concentration given in ref. 3 (500 KIU/ml; approx. 10 µM) seems to be very high.

Stability: Aprotinin may be stored indefinitely at +4°C in lyophilized form. Dissolved in saline or buffer solutions (e. g. 10 mg/ml) at pH 5 - 8, it may be stored aliquoted at +4°C at least for one month or frozen at -20°C for several years. Thawed aliquots of the stock solutions should not be frozen again, because repeated freeze-thawing will lead to aggregation of the polypeptide aprotinin. Solutions with a pH value below 4 or above 9 should be used immediately. Protect from direct sunlight, UV light and reducing agents. It is stable in water, 70 % methanol, 70 % ethanol or 50 % acetone, too (2, 3).

Unit-Definition: One Trypsin Inhibitor Unit (TIU) will decrease the activity of 2 trypsin units by 50 %, where one trypsin unit will hydrolyze 1.0 µmole N α -benzoyl-DL-arginine p-nitroanilide (BAPNA) per minute at pH 7.8 and 25°C. 1 TIU (Trypsin Inhibitor Unit) corresponds to approx. 1300 KIU (Kallikrein Inhibitor Units) and 1 TIU corresponds to one Ph. Eur. Unit.