fon: +49(0)731 – 3608 123
fax: +49(0)731 – 3608 962
E-Mail: info@genaxxon.com

Protease Inhibitior spectrum list

Protease Inhibitor	AEBSF	Aprotinin	Bestatin	E-64	EDTA	Leupeptin	Pepstatin	Phosphor-amidon
Cat-No.	M6360	M6361	M3447	S5219	M3200	M6100	M6359	
Serine proteases	irreversible	competitive, reversible	-	-	-	competitive	-	-
Cathepsin						no inhibition		
Chymotrypsin	+	+				no inhibition		
Elastase	o	o				o		
Kallikrein	+	+				+		
Plasmin	+	+				+		
Thrombin	+	o				(+)		
Trypsin	+	+		weak		+		
Trypsin-like proteases	+	+				+		
Amino peptidases	-	-	competitive	-	-	-	-	-
Aminopeptidase A			no inhibition					
Aminopeptidase B			+					
Leucin Amino-peptidase			+					
Triamino-peptidases			+					
Cystein proteases	-	-	-	irreversible	-	competitive	-	-
Calpain				+		+		
Papain				+		+		
Cathepsin B				+		+		
Metalloproteases	-	-	-	-	irreversible	-	-	effective
Thermolysin					+			+++
Collagenase					+			(+)
Enkephalinase					+			+
Aspartyl proteases	-	-	-	-	-	-	effective	-
Pepsin							+	
Renin							+	
Chymosin							+	
Retroviral Protease							+	
Cathepsin D							+	
Esterases	-	effective	-	-	-	-	-	-
Nucleases	-	-	-	-	irreversible	-	-	-

+: effective **(+): weakly effective** **-: not effective** **o: not known**

GENAXXON bioscience GmbH
Söflinger Str. 70 ● 89077 Ulm ● Geschäftsführer: Dr. Norbert Tröndle
Amtsgericht: 89014 Ulm ● HRB 641623
U.St.-Id.Nr. DE 220 603 767 ● Deutsche St.-Nr. 88002/33658

fon: +49(0)731 – 3608 123
fax: +49(0)731 – 3608 962
E-Mail: info@genaxxon.com

Protease Inhibitor Cocktails

Summary and Applications

	Inhibitor Cocktail		Standard	Plant	Mammalian	Bacteria	His-Tag	
	Cat-No.		S5302	M6387	M6388	M6386	M6385	
	Name		Mix II	Mix IV	Mix V	Mix III	Mix I	
	shipment		lyophilized	in 1mL DMSO	lyophilized	lyophilized	In 1mL DMSO	
	storage		-20°C	-20°C	-20°C	-20°C	-20°C	
	Vial content		31.2mg	64.2mg	15.8mg	26.4mg	12.7mg	
	Dissolve in		1mL demin. water	1mL DMSO	1mL DMSO	1mL 90% DMSO	1mL demin. water	
	Stock solution		100-times	100-times	100-times	100-times	100-times	
	Intended for		100mL tissue extract	100mL tissue extract	100mL tissue extract	100mL tissue extract	100mL protein/tissue extract	
	After reconstitution stable for:		at least 4 weeks at -20°C	at least 4 weeks at -20°C	at least 4 weeks at -20°C	at least 4 weeks at -20°C	at least 4 weeks at -20°C	
	storage		-20°C	-20°C	-20°C	-20°C	-20°C	
	AEBSF		x	X	x	X	X	
	Aprotinin		x	---	x	---	x	
	Bestatin		---	X	x	X	---	
	E-64		x	X	x	X	X	
	EDTA		x	---	---	X	---	
	Leupeptin		x	X	x	---	X	
	Pepstatin A		---	x	x	X	---	
	1,10-Phenanthroline		---	x	---	---	---	
	Application		10µL stock solution to 1mL extract (max. 20mg of tissue)	10µL stock solution to 1mL extract (max. 200mg of tissue)	10µL stock solution to 1mL extract (max. 20mg of tissue)	25µL stock solution to 1mL extract (max. 100mg E.coli)	10µL stock solution to 1mL extract (max. 100mg bacteria)	
	Recommended for		General applications like protection of protein crude extracts	Extracts from plant cells or tissue	Extracts from mammalian cells and tissue	Bacterial extracts	Extractions of His-tagged proteins.	

GENAXXON bioscience GmbH
Söflinger Str. 70 ● 89077 Ulm ● Geschäftsführer: Dr. Norbert Tröndle
Amtsgericht: 89014 Ulm ● HRB 641623
U.St.-Id.Nr. DE 220 603 767 ● Deutsche St.-Nr. 88002/33658

fon: +49(0)731 – 3608 123
fax: +49(0)731 – 3608 962
E-Mail: info@genaxxon.com

Protease Inhibitor Cocktails

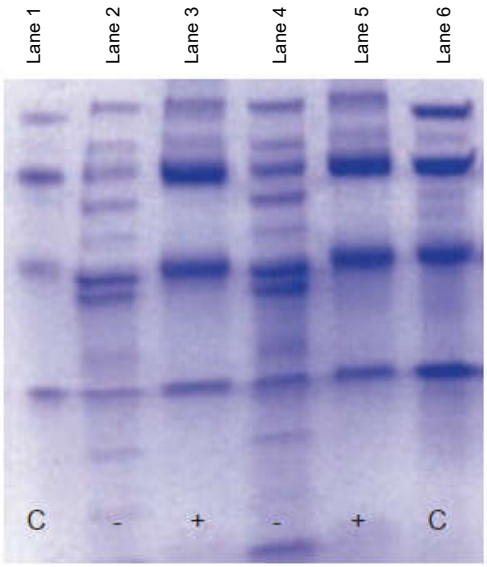
Example

The degradation of proteins is a common problem frequently associated with extraction processes. Often, the use of single protease inhibitors like AEBSF-HCl, aprotinin, phenylmethylsulfonylfluoride (PMSF) is not sufficient to simultaneously protect the proteins against different types of proteases in one reaction.
To overcome this issue Genaxxon bioscience offers a range of protease inhibitor mixes. The different protease inhibtor mix components are effective against the most common proteases like:

- amino peptidases (Bestatin)
- asparate proteases (E64)
- metallo proteases (EDTA)
- cysteine proteases (Leupeptin; E64)
- serine proteases (AEBSF; Aprotinin)

The mixes contain different protease inhibitors (for detailed information please refer to reverse side) at concentrations suited to protect proteins during isolation processes from bacteria, fungi, yeast, plant and mammalian cells. For general applications Mix G is best used. When using the His-tag technology, Mix HP is recommended to protect your recombinant protein against proteolytic degradation.

Efficient protection of marker proteins against proteolytic degradation by Neutral Proteases



For demonstrating the efficiency of the Genaxxon bioscience Protease Inhibitor Mixes a mixture of protein markers have been incubated with Neutral Protease and with Neutral Protease plus Inhibitor Mix II (S5302: for general applications).

Lane 1 and lane 6: Control of the pure protein marker mixture without protease or inhibitor mix.

Lane 2 and Lane 4: protein marker mixture after an approx. 60 hrs. incubation at ambient temperature with Neutral Protease but without Inhibitor Mix

Lane 3 and lane 5: protein marker mixture after an approx. 60 hrs. incubation at ambient temperature with Neutral Protease and with Inhibitor Mix II.

Staining of gel with Coomassie Blue

Picture 1: The used Protease Inhibitor Mix II (S5302) is a mixture of 5 different, water-soluble protease inhibitors. It has been developed for general applications like protection of protein crude extracts.

Protease Inhibitor Mix I	**Protease Inhibitor Mix II**	**Protease Inhibitor Mix III**	**Protease Inhibitor Mix IV**	**Protease Inhibitor Mix V**
Do you express your recombinant protein in *E. coli* including subsequent purification using His-tags? The Protease Inhibitor Mix I will protect your valuable protein against degradation (Cat. No. M6385).	Protease Inhibitor Mix II is a mixture of 5 different, water-soluble protease inhibitors. It has been developed for general applications like protection of protein crude extracts (Cat. No. S5302).	To stabilize released proteins from procaryotic cell extracts choose Protease Inhibitor Mix III. This protease inhibitor mixture is composed of 5 different protease inhibitors of bacterial proteases (Cat. No. M6386).	You are working with plant material? Proteins isolated from plants keep intact as long as you use Protease Inhibitor Mix IV during your protein isolation procedure. This mix contains 6 different protease inhibitors and can be dissolved in DMSO (Cat. No. M6387).	Proteins in cell extracts from mammalian cells are protected efficiently when using Protease Inhibitor Mix V. Six different protease inhibitors will prevent proteases from degrading mammalian proteins (Cat. No. M6388).

GENAXXON bioscience GmbH
Söflinger Str. 70 ● 89077 Ulm ● Geschäftsführer: Dr. Norbert Tröndle
Amtsgericht: 89014 Ulm ● HRB 641623
U.St.-Id.Nr. DE 220 603 767 ● Deutsche St.-Nr. 88002/33658