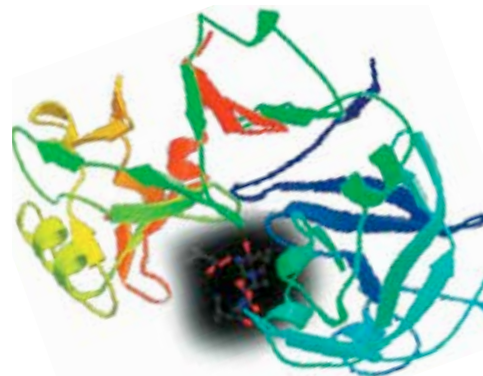


9. Peptides

Peptides are short chains of amino acid monomers linked by peptide bonds. The shortest peptides are dipeptides, consisting of 2 amino acids, followed by tripeptides, oligopeptides up to polypeptides.

quartett with its expertise has the knowledge to produce any kind of compound with a high quality standard according to your specifications.



9.1. Amino Acid Derivatives

Amino acids play a significant role as building blocks of proteins and in a variety of metabolic functions. These suitably **protected amino acid derivatives** can be used for classical and solid phase peptide synthesis (SPPS) as well as for chiral educts in organic synthesis.

May your project require a derivative not listed in our catalog, do not hesitate to ask our custom synthesis team for a personal quotation or technical questions.

Cat.-No.	Product Name	Synonym				Quantity
AS 0001	(2S, 3S)-β-methylaspartic acid TFA-salt					bulk
AS 0001-10						10 mg
AS 0001-100						100 mg
	Cas-No.	Molecular Formula	C5H9NO4·C2HF3O2	Molecular Weight	261.152	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		
AS 0002	(2S,3S)-2-amino-3-hydroxy-3-phenylpropanoic acid	L-(2S,3S)-phenylserine, Erythro-l-phenylserine				bulk
AS 0002-10						10 mg
AS 0002-100						100 mg
	Cas-No.	32946-42-2	Molecular Formula	C9H11NO3	Molecular Weight	181.191
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		
AS 0003	(2S,3S)-2-amino-3-hydroxy-3-phenylpropanoic acid	L-(2S,3S)-phenylserine, Erythro-l-phenylserine				bulk
AS 0003-10						10 mg
AS 0003-100						100 mg
	Cas-No.	153829-66-4	Molecular Formula	C10H13NO4	Molecular Weight	211.218
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		
AS 0004	(2R,3S)-β-hydroxyisoleucine hydrochloride					bulk
AS 0004-10						10 mg
AS 0004-100						100 mg
	Cas-No.		Molecular Formula	C6H13NO3·ClH	Molecular Weight	183.633
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		
AS 0005	2-aminopent-4-ynoic acid hydrochloride					bulk
AS 0005-10						10 mg
AS 0005-100						100 mg
	Cas-No.		Molecular Formula	C5H7NO2·ClH	Molecular Weight	149.577
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		
AS 0006	(S)-2-amino-6-azidohexanoic acid	azidonorleucine, 6-Azido-L-lysine				bulk
AS 0006-10						10 mg
AS 0006-100						100 mg
	Cas-No.	159610-92-1	Molecular Formula	C6H12N4O2	Molecular Weight	172.187
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 6 months		

Cat.-No.	Product Name	Synonym	Quantity
AS 0007	(R)-2-amino-2-(3,5-dichloro-4-hydroxyphenyl)acetic acid hydrochloride		bulk
AS 0007-10			10 mg
AS 0007-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C8H7Cl2NO3*ClH	272.513
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0008	(R)-2-amino-2-(3,5-dibromo-4-hydroxyphenyl)acetic acid hydrochloride		bulk
AS 0008-10			10 mg
AS 0008-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C8H7Br2NO3*ClH	361.415
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0009	(R)-4'-hydroxy-3',5'-diiodophenylglycine hydrochloride		bulk
AS 0009-10			10 mg
AS 0009-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C8H7I2NO3*ClH	455.415
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0010	D-(3,5-dihydroxyphenyl)glycine hydrochloride		bulk
AS 0010-10			10 mg
AS 0010-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C8H9NO4*ClH	219.622
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0011	(2S,3S)-2-amino-3-hydroxy-3-(4-hydroxyphenyl)propanoic acid	L-β-4-hydroxyphenylserine	bulk
AS 0011-10			10 mg
AS 0011-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C9H11NO4	197.191
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0012	(2R,4S)-4-amino-2-azido-2-(hydroxymethyl)pentanedioic acid TFA-salt		bulk
AS 0012-10			10 mg
AS 0012-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C6H10N4O5*C2HF3O2	332.190
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0013	(2R,4S)-2,4-diamino-2-(hydroxymethyl)pentanedioic acid TFA-salt		bulk
AS 0013-10			10 mg
AS 0013-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
		C6H12N2O5*C2HF3O2	306.193
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0014	(2R,3R)-2-amino-3-hydroxy-3-phenylpropanoic acid	D-(2R,3R)-phenylserine, Beta-Phenylserine, 2-amino-3-hydroxy-3-phenylpropionic acid	bulk
AS 0014-10			10 mg
AS 0014-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
	7352-06-9	C9H11NO3	181.191
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	
AS 0015	(2R,3R)-(+)-β-(4-methoxyphenyl)serine		bulk
AS 0015-10			10 mg
AS 0015-100			100 mg
	Cas-No.	Molecular Formula	Molecular Weight
	32721-76-9	C10H13NO4	211.218
	Serving	Quality Control	Purity
	white solid	Analysis by HPLC	> 95 %
	Storage	Stability	
	2-8 °C, dry	Under followed storage conditions: at least 6 months	

Cat.-No.	Product Name	Synonym	Quantity
AS 0016	(2R,3R)-2-amino-3-hydroxy-3-(4-hydroxyphenyl)propanoic acid	D-β-4-hydroxyphenylserine	bulk
AS 0016-10			10 mg
AS 0016-100			100 mg
	Cas-No.	Molecular Formula	C9H11NO4
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 6 months
AS 0017	(S)-2-amino-2-(3,5-dichloro-4-hydroxyphenyl)acetic acid hydrochloride		bulk
AS 0017-10			10 mg
AS 0017-100			100 mg
	Cas-No.	Molecular Formula	C8H7Cl2NO3*ClH
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 6 months
AS 0018	(S)-2-amino-2-(3,5-dibromo-4-hydroxyphenyl)acetic acid hydrochloride		bulk
AS 0018-10			10 mg
AS 0018-100			100 mg
	Cas-No.	Molecular Formula	C8H7Br2NO3*ClH
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 6 months
AS 0019	(S)-4'-hydroxy-3',5'-diiodophenylglycine hydrochloride		bulk
AS 0019-10			10 mg
AS 0019-100			100 mg
	Cas-No.	Molecular Formula	C8H7I2NO3*ClH
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 6 months

9.2. Building Blocks

quartett offers natural amino acid **building blocks for peptide synthesis**. The most common synthetic approaches to peptides follow Boc- as well as Fmoc solid phase peptide synthesis strategies. A list of the most popular Boc- and Fmoc-protected amino acid building blocks for these synthesis strategies is described below. Boc-protected amino acids are also frequently used in solution phase peptide synthesis procedures. Further derivatives of protected amino acids are available on customer request.

Cat.-No.	Product Name	Synonym	Quantity
BB 0001	N-(9-Fluorenylmethoxycarbonyl)-L-alanine	Fmoc-Ala-OH * H2O	bulk
BB 0001-10			10 mg
BB 0001-100			100 mg
	Cas-No.	35661-39-3	Molecular Formula
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 12 months
BB 0002	N-(9-Fluorenylmethoxycarbonyl)-D-alanine	Fmoc-D-Ala-OH * H2O	bulk
BB 0002-10			10 mg
BB 0002-100			100 mg
	Cas-No.	79990-15-1	Molecular Formula
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 12 months
BB 0003	N-(9-Fluorenylmethoxycarbonyl)-L-glycine	Fmoc-Gly-OH	bulk
BB 0003-10			10 mg
BB 0003-100			100 mg
	Cas-No.	29022-11-5	Molecular Formula
	Serving	white solid	Quality Control
	Storage	2-8 °C, dry	Stability
			Under followed storage conditions: at least 12 months

Cat.-No.	Product Name	Synonym				Quantity
BB 0004	N-(9-Fluorenylmethoxycarbonyl)-L-isoleucine	Fmoc-Ile-OH				bulk
BB 0004-10						10 mg
BB 0004-100						100 mg
	Cas-No.	71989-23-6	Molecular Formula	C18H17NO4 · H2O	Molecular Weight	353.42
	Serving	white solid	Quality Control	Analysis by TLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0005	N-(9-Fluorenylmethoxycarbonyl)-L-leucine	Fmoc-Leu-OH				bulk
BB 0005-10						10 mg
BB 0005-100						100 mg
	Cas-No.	35661-60-0	Molecular Formula	C21H23NO4	Molecular Weight	353.42
	Serving	white solid	Quality Control	Analysis by TLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0006	N-(9-Fluorenylmethoxycarbonyl)-D-leucine	Fmoc-D-Leu-OH				bulk
BB 0006-10						10 mg
BB 0006-100						100 mg
	Cas-No.	114360-54-2	Molecular Formula	C21H23NO4	Molecular Weight	353.42
	Serving	white solid	Quality Control	Analysis by TLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0007	N-(9-Fluorenylmethoxycarbonyl)-L-phenylalanine	Fmoc-Phe-OH				bulk
BB 0007-10						10 mg
BB 0007-100						100 mg
	Cas-No.	35661-40-6	Molecular Formula	C24H21NO4	Molecular Weight	387.44
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0008	N-(9-Fluorenylmethoxycarbonyl)-D-phenylalanine	Fmoc-D-Phe-OH				bulk
BB 0008-10						10 mg
BB 0008-100						100 mg
	Cas-No.	86123-10-6	Molecular Formula	C24H21NO4	Molecular Weight	387.44
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0009	N-(9-Fluorenylmethoxycarbonyl)-L-tryptophane	Fmoc-Trp-OH				bulk
BB 0009-10						10 mg
BB 0009-100						100 mg
	Cas-No.	35737-15-6	Molecular Formula	C26H22N2O4	Molecular Weight	426.47
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0010	N-(9-Fluorenylmethoxycarbonyl)-L-valine	Fmoc-Val-OH				bulk
BB 0010-10						10 mg
BB 0010-100						100 mg
	Cas-No.	68858-20-8	Molecular Formula	C20H21NO4	Molecular Weight	339.39
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0011	N-(9-Fluorenylmethoxycarbonyl)-D-valine	Fmoc-D-Val-OH				bulk
BB 0011-10						10 mg
BB 0011-100						100 mg
	Cas-No.	84624-17-9	Molecular Formula	C20H21NO4	Molecular Weight	339.39
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		
BB 0012	N-(tert-Butoxycarbonyl)-L-alanine	Boc-Ala-OH				bulk
BB 0012-10						10 mg
BB 0012-100						100 mg
	Cas-No.	15761-38-3	Molecular Formula	C8H15NO4	Molecular Weight	189.21
	Serving	white solid	Quality Control	Analysis by TLC	Purity	> 95 %
	Storage	2-8 °C, dry	Stability	Under followed storage conditions: at least 12 months		

Cat.-No.	Product Name	Synonym				Quantity
BB 0013	N-(tert-Butoxycarbonyl)-D-alanine	Boc-D-Ala-OH				bulk
BB 0013-10						10 mg
BB 0013-100						100 mg
	Cas-No. 7764-95-6	Molecular Formula C ₈ H ₁₅ NO ₄	Molecular Weight 189.21			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0014	N-(tert-Butoxycarbonyl)-L-arginine-hydrochloride	Boc-Arg-OH * HCl * H ₂ O				bulk
BB 0014-10						10 mg
BB 0014-100						100 mg
	Cas-No. 35897-34-8	Molecular Formula C ₁₁ H ₂₂ N ₄ O ₄ · HCl · H ₂ O	Molecular Weight 310.78			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage -20 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0015	N-(tert-Butoxycarbonyl)-L-glycine	Boc-Gly-OH				bulk
BB 0015-10						10 mg
BB 0015-100						100 mg
	Cas-No. 4530-20-5	Molecular Formula C ₇ H ₁₃ NO ₄	Molecular Weight 175.18			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage -20 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0016	N-(tert-Butoxycarbonyl)-L-isoleucine	Boc-Ile-OH				bulk
BB 0016-10						10 mg
BB 0016-100						100 mg
	Cas-No. 13139-16-7	Molecular Formula C ₁₁ H ₂₁ NO ₄	Molecular Weight 231.29			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0017	N-(tert-Butoxycarbonyl)-L-leucine	Boc-Leu-OH * H ₂ O				bulk
BB 0017-10						10 mg
BB 0017-100						100 mg
	Cas-No. 13139-15-6	Molecular Formula C ₁₁ H ₂₁ NO ₄ · H ₂ O	Molecular Weight 249.31			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage 15-25 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0018	N-(tert-Butoxycarbonyl)-D-leucine	Boc-D-Leu-OH * H ₂ O				bulk
BB 0018-10						10 mg
BB 0018-100						100 mg
	Cas-No. 16937-99-8	Molecular Formula C ₁₁ H ₂₁ NO ₄ · H ₂ O	Molecular Weight 249.31			
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %			
	Storage 15-25 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0019	N-(tert-Butoxycarbonyl)-L-phenylalanine	Boc-Phe-OH				bulk
BB 0019-10						10 mg
BB 0019-100						100 mg
	Cas-No. 13734-34-4	Molecular Formula C ₁₄ H ₁₉ NO ₄	Molecular Weight 265.31			
	Serving white solid	Quality Control Analysis by HPLC	Purity > 95 %			
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0020	N-(tert-Butoxycarbonyl)-D-phenylalanine	Boc-D-Phe-OH				bulk
BB 0020-10						10 mg
BB 0020-100						100 mg
	Cas-No. 18942-49-9	Molecular Formula C ₁₄ H ₁₉ NO ₄	Molecular Weight 265.31			
	Serving white solid	Quality Control Analysis by HPLC	Purity > 95 %			
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months				
BB 0021	N-(tert-Butoxycarbonyl)-L-tryptophane	Boc-Trp-OH				bulk
BB 0021-10						10 mg
BB 0021-100						100 mg
	Cas-No. 13139-14-5	Molecular Formula C ₁₆ H ₂₀ N ₂ O ₄	Molecular Weight 304.35			
	Serving white solid	Quality Control Analysis by HPLC	Purity > 95 %			
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months				

Cat.-No.	Product Name	Synonym	Quantity
BB 0022	N-(tert-Butoxycarbonyl)-D-tryptophane	Boc-D-Trp-OH	bulk
BB 0022-10			10 mg
BB 0022-100			100 mg
	Cas-No. 5241-64-5	Molecular Formula C16H20N2O4	Molecular Weight 304.35
	Serving white solid	Quality Control Analysis by HPLC	Purity > 95 %
	Storage 2-8 °C, dry	Stability Under followed storage conditions: at least 12 months	
BB 0023	N-(tert-Butoxycarbonyl)-L-valine	Boc-Val-OH	bulk
BB 0023-10			10 mg
BB 0023-100			100 mg
	Cas-No. 13734-41-3	Molecular Formula C10H19NO4	Molecular Weight 217.27
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %
	Storage 15-25 °C, dry	Stability Under followed storage conditions: at least 12 months	
BB 0024	N-(tert-Butoxycarbonyl)-D-valine	Boc-D-Val-OH	bulk
BB 0024-10			10 mg
BB 0024-100			100 mg
	Cas-No. 22838-58-0	Molecular Formula C10H19NO4	Molecular Weight 217.27
	Serving white solid	Quality Control Analysis by TLC	Purity > 95 %
	Storage 15-25 °C, dry	Stability Under followed storage conditions: at least 12 months	

9.3. Enzyme Inhibitors

quartett is pleased to offer a broad range of **protease inhibitors** as well as **protease and phosphatase inhibitor cocktail kits**. All products are synthetic and manufactured according to EN ISO 9001:2008 & EN ISO 13485:2012 + AC:2012 which guarantees highest quality.

9.3.1. Protease Inhibitors

Significance of protease inhibitors: Isolation of proteins and peptides from a biological matrix and their characterization is an important tool in research and development. Their processing is often accompanied by loss of activity and loss of yield caused by enzymatic decomposition due to proteases (proteolysis). Proteolysis needs to be efficiently inhibited *in vivo* and *in vitro* by protease inhibitors. Inhibition of proteolytic activity is also important to study regulatory mechanisms of proteolytic processes, such as apoptosis, hormonal regulation, or blood coagulation.

Classification: Protease inhibitors are classified on the basis of type of protease they inhibit, or by the mechanism of inhibition. Four main classes are described: serine -, cysteine -, aspartic -, and metalloproteases.

Cat.-No.	Product Name	Synonym	Target	Quantity
PPI 1310	AEBSF HCl	Pefabloc SC, 4-(2-Aminoethyl)benzenesulfonylfluoride hydrochloride	Chymotrypsin, Kallikrein, Plasmin, Trypsin, Thrombin	bulk
PPI 1310-25				25 mg
PPI 1310-100				100 mg
	Specification	Specific, irreversible serine protease inhibitor. Ideal substitute for PMSF and DFP with a comparable inhibitory activity. Advantages to PMSF: non-toxic, brilliant blocker of thrombin activity in serum or plasma.		
	Cas-No. 30827-99-7	Molecular Formula C8H10FNO2S · HCl	Molecular Weight 239.69	
	Serving white solid	Quality Control Analysis by HPLC	Purity > 97 %	
	Storage -20 °C	Stability Lyoph.: 24 months, Stock solution: 2-4 months, if stored at pH < 6.7	Solubility 50 mg/ml in aqueous buffers or water	
PPI 6011	Acetyl-Pepstatin	Ac-Val-Val-Sta-ALa-Sta-OH	HIV-1 proteinase, HIV-2 proteinase	bulk
PPI 6011-5				5 mg
PPI 6011-10				10 mg
	Specification	A potent inhibitor of aspartyl proteases.		
	Cas-No. 28575-34-0	Molecular Formula C31H57N5O9	Molecular Weight 643.82	
	Serving white solid	Quality Control Analysis by HPLC	Purity > 95 %	
	Storage -20 °C	Stability Lyoph.: 24 months, if stored dry and protected from light	Solubility in 1:1 mixture water/ acetic acid	

Cat.-No.	Product Name	Synonym	Target	Quantity
PNO 1011	Alafosfalin	L-Alanyl-L-1-aminoethylphosphonic acid, [(1R)-1-[[[(2S)-2-azanylpropanoyl]amino]ethyl]phosphonic acid, Alaphosphin	Alanine antagonist, Murein biosynthesis	bulk 100 mg 500 mg
Specification		Alafosfalin has an antibacterial activity.		
Cas-No.	60668-24-8	Molecular Formula	C5H13N2O4P	Molecular Weight 196.14
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	
PPI 1010	Amastatin HCl	[(2S,3R)-3-Amino-2-hydroxy-5-methylhexanoyl]-Val-Val-Asp-OH	Cytosolic leucine aminopeptidase, Microsomal aminopeptidase M, Bacterial leucine aminopeptidase, Aminopeptidase A, Tyrosine aminopeptidase	bulk 5 mg 10 mg
Specification		Slow, tight-binding inhibitor of aminopeptidases. No inhibition of aminopeptidase B. Originally Amastatin has been isolated from the culture filtrate of Streptomyces sp. Has been used to potentiate the action of some bioactive peptides by inhibiting their degradation by aminopeptidases.		
Cas-No.	100938-10-1	Molecular Formula	C21H38N4O8 · HCl	Molecular Weight 511.01
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: max. 1 month	Solubility 1 mM in polar solvents
PPI 2010	Antipain 2HCl	N-(N-Carbonyl-Arg-Val-Arg-al)-Phe dihydrochloride	Trypsin, Cathepsin A, B, D, Plasmin, Chymotrypsin, Pepsin, Calpain	bulk 10 mg 100 mg
Specification		Inhibitor of Ca ²⁺ -dependent endopeptidases. Antipain was former isolated from actinomycetes. The name Antipain derives from anti-Papain and has a similiar specificity to Leupeptin. Reversal inhibitor of Papain.		
Cas-No.	37682-72-7	Molecular Formula	C27H44N10O6 · 2 HCl	Molecular Weight 677.6
Serving	pale yellow solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: max. 1 month	Solubility 10 mg/ml in water, DMSO, methanol
PPI 1110	Aprotinin	Pancreatic trypsin inhibitor (BPTI)	Chymotrypsin, Kallikrein, Plasmin, Trypsin, Tissue and leukocytic Proteinases	bulk 50 mg 100 mg
Specification		A competitive and reversible inhibitor of esterases and proteases. Single chain polypeptide (58 amino acids) crosslinked by three disulfide bridges. Does not act on thrombin or factor X. Forms a tight complex with and blocks the active site of the enzymes. Used as a proteolytic inhibitor in radioimmunoassays of polypeptide hormones.		
Cas-No.	9087-70-1	Molecular Formula	C284H432 - N84O79S7	Molecular Weight 6511.44
Serving	white solid	Quality Control	Analysis by gel filtration	Purity > 95 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots max. 6 months	Solubility Easily soluble in water (5 mg/ml)
PPI 1510	Bestatin HCl	N-[(2S,3R)-3-Amino-2-hydroxy-4-phenylbutyl]-L-leucine hydrochloride	Leucine Aminopeptidase, Aminopeptidase B, and Triamino Peptidase, Aminopeptidases on the surface of mammalian cells	bulk 5 mg 25 mg
Specification		A reversible inhibitor of aminopeptidase enzymes. Inhibition by Bestatin correlates to apoptosis induction in oncogenic cells. Has antitumor properties. It showed no inhibition of aminopeptidase A, trypsin, chymotrypsin, elastase, papain, pepsin, or themolysin.		
Cas-No.	65391-42-6	Molecular Formula	C16H24N2O4 · HCl	Molecular Weight 344.84
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: max. 1 month	Solubility 20 mg/ml in 1 M HCl, 5 mg/ml in methanol
PPI 1520	Bestatin Ubenimex	[(2S,3R)-3-Amino-2-hydroxy-4-phenylbutyl]-L-leucine	Aminopeptidase B, Leukotriene A4 hydrolase, Aminopeptidase N	bulk 10 mg 100 mg
Specification		A competitive protease inhibitor that is being studied for use in the treatment of acute myelocytic leukemia.		
Cas-No.	103476-89-7	Molecular Formula	C16H24N2O4	Molecular Weight 308.3
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 98 %
Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility 50 mg/mL in 80 % AcOH

Cat.-No.	Product Name	Synonym	Target	Quantity		
PPI 8210	Boc-statine	(3S,4S)-4-(Boc-amino)-3-hydroxy-6-methyl-heptanoic acid,	Acid proteases	bulk		
PPI 8210-10		Boc-(3S,4S)-Sta-OH		10 mg		
PPI 8210-100				100 mg		
	Specification	A low molecular weight inhibitor.				
	Cas-No.	58521-49-6	Molecular Formula	C13H25NO5	Molecular Weight	275.34
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 97 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light		
PBR 0110	Bradykinin	BK, Kallidin I, Kallidin-9, BRS-640		bulk		
PBR 0110-10				10 mg		
PBR 0110-100				100 mg		
	Specification	Bradykinin is a pro-inflammatory peptide. Activation of sphingolipid metabolism. Significant production increase in ceramide followed by a transient rise in sphingosine content, can be regarded if fibroblasts are treated with bradykinin. Induces the release of nitric oxide. Other physiological functions include stimulation of pain receptors, inhibition of cAMP accumulation, and induction of smooth muscle contraction and vasodilation.				
	Cas-No.	6846-03-3	Molecular Formula	C50H73N15O11	Molecular Weight	1060.22
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 97 %
	Storage	-20 °C	Stability	Lyoph.: 30 months, if stored dry and protected from light		
PPI 3010	Calpain Inhibitor I (MG101)	ALLN, Ac-LLnL-CHO, MG-101, N-Acetyl-L-leucyl-L-leucyl-L-norleucinal, N-Acetyl-Leu-Leu-Norleu-al	Calpain I, Calpain II, Cathepsin B, Cathepsin L, Papain, weakly Cathepsin H and α -Chymotrypsin	bulk		
PPI 3010-5				5 mg		
PPI 3010-25				25 mg		
	Specification	Calpain Inhibitor I has been observed to initiate apoptosis in tumor cell lines and HL-60 cells, but blocks dexamethasone-induced apoptosis in thymocytes and cycloheximide-induced apoptosis in metamyelocytes. Prevents nitric oxide production by activated macrophages. Protects against neuronal damage caused by hypoxia and ischemia.				
	Cas-No.	110044-82-1	Molecular Formula	C20H37N3O4	Molecular Weight	383.53
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: a few days	Solubility	10 mg/ml in DMSO or ethanol
PPI 3510	Calpain Inhibitor II	ALLM, N-Acetyl-L-leucyl-L-leucyl-L-methioninal	Calpain I, Calpain II, Cathepsin B, Cathepsin L, weakly inhibition of proteasome	bulk		
PPI 3510-5				5 mg		
PPI 3510-25				25 mg		
	Specification	Cell permeable inhibitor of Calpain I, Calpain II, Cathepsin B, and Cathepsin L. Strong inhibitory activity against Cathepsin L and the strongest activity of Cathepsin B amongst the peptide aldehydes. Inhibits activation-induced programmed cell death and restores defective immune responses in HIV+ donors. Prevents nitric oxide production by activated macrophages.				
	Cas-No.	110115-07-6	Molecular Formula	C19H35N3O4S	Molecular Weight	401.57
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: max. 3 months		
PPI 3610	Calpain Inhibitor III	Carbobenzoxy-valinyl-phenylalaninal, MDL 28170	Calpain I, Calpain II	bulk		
PPI 3610-5				5 mg		
PPI 3610-25				25 mg		
	Specification	A potent, cell-permeable inhibitor. Reduces capsaicin-mediated cell death in cultured dorsal root ganglion neurons. Modulation of an A β formation by inhibiting the formation of intermediate A β 1-46 and protecting A β from degradation, observed by Dong <i>et al.</i> .				
	Cas-No.	88191-84-8	Molecular Formula	C22H26N2O4	Molecular Weight	382.45
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: a few days	Solubility	10 mg/ml in DMSO or ethanol, insoluble in water

Cat.-No.	Product Name	Synonym	Target	Quantity		
PPI 3710	Calpain Inhibitor IV (MG132)	Z-Leu-Leu-Leu-al	Proteasome, Calpain	bulk		
PPI 3710-5				5 mg		
PPI 3710-100				100 mg		
	Specification	A potent, reversible, and cell-permeable proteasome inhibitor. Initiates neurite outgrowth in PC12 cells with an optimal concentration of 10 μ M. Reduces the degradation of ubiquitin-conjugated proteins in mammalian cells and permeable strains of yeast by the 26S complex without affecting its ATPase or isopeptidase activities. Blocks cleavage of poly(ADP-ribose) polymerase and apoptosis in thymocytes. It activates JNK-1, responsible for apoptosis initiation in response to cell stress.				
	Cas-No.	133407-82-6	Molecular Formula	C26H41N3O5	Molecular Weight	475.63
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 97 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	1 mg/ml in ethanol
NPI 02	Cathepsin Inhibitor I	Z-Phe-Gly-NHO-Bz	Selectively inhibition of Cathepsin B, Cathepsin L, Cathepsin S, Papain	bulk		
NPI 02-1				1 mg		
NPI 02-10				10 mg		
	Specification	Cell-permeable cysteine protease inhibitor.				
		Molecular Formula	C26H25N3O6	Molecular Weight	475.5	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, ethanol
NPI 03	Cathepsin Inhibitor II	Z-Phe-Gly-NHO-Bz-p-Me	Selectively inhibition of Cathepsin B, Cathepsin L, Cathepsin S, Papain	bulk		
NPI 03-1				1 mg		
NPI 03-10				10 mg		
	Specification	Cysteine protease inhibitor.				
		Molecular Formula	C27H27N3O6	Molecular Weight	489.5	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, ethanol
NPI 04	Cathepsin Inhibitor III	Z-Phe-Gly-NHO-Bz-p-OMe	Selectively inhibition of Cathepsin B, Cathepsin L, Cathepsin S, Papain	bulk		
NPI 04-1				1 mg		
NPI 04-10				10 mg		
	Specification	Cysteine protease inhibitor.				
		Molecular Formula	C27H27N3O7	Molecular Weight	505.5	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, ethanol
NPI 05	Cathepsin Inhibitor	Z-Gly-Phe-NHO-Bz	Cathepsin B, Cathepsin L, Cathepsin S	bulk		
NPI 05-1				1 mg		
NPI 05-10				10 mg		
		Molecular Formula	C26H25N3O6	Molecular Weight	475.5	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, EtOH
NPI 07	Cathepsin Inhibitor	Boc-Pro-Phe-NHO-Bz-p-Cl	Cathepsin B, Cathepsin L, Cathepsin S	bulk		
NPI 07-1				1 mg		
NPI 07-10				10 mg		
		Molecular Formula	C26H30N3O6Cl	Molecular Weight	517.0	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, EtOH

Cat.-No.	Product Name	Synonym	Target	Quantity		
NPI 09	Cathepsin/Subtilisin Inhibitor	Boc-Val-Phe-NHO-Bz-p-Cl	Cathepsin L, Subtilisin, Carlsberg and Thermitase	bulk		
NPI 09-1				1 mg		
NPI 09-10				10 mg		
	Specification	Cysteine protease and serine protease inhibitor.				
		Molecular Formula	C26H32N3O6Cl	Molecular Weight	518.0	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, EtOH
NPI 11	Dipeptidylpeptidase IV Inhibitor	H-Glu-(NHO-Bz)Pyr	Inhibition of Dipeptidyl Peptidase IV/CD26 and Prolyl Endopeptidase.	bulk		
NPI 11-1				1 mg		
NPI 11-10				10 mg		
	Specification	DPP-4 inhibitors or gliptins are a class of oral hypoglycemics that block DPP-4. They can be used to treat diabetes mellitus type 2. Glucagon increases blood glucose levels, and DPP-4 inhibitors reduce glucagon and blood glucose levels.				
PPI 1810	E-64	L-trans-Epoxy succinyl-Leu-4-guanidinobutylamide, L-trans-Epoxy succinyl-Leu-arginine	Papain, Bromelain, Ficin, Cathepsin B, H, L, Tumor-Cathepsin, Calpain	bulk		
PPI 1810-5				5 mg		
PPI 1810-25				25 mg		
	Specification	An irreversible, highly selective cysteine protease inhibitor. Shows no inhibition against serine proteases with an exception of trypsin. Interacts with the Sn subsites of proteases. For <i>in vivo</i> studies the use of E-64 as a cysteine protease inhibitor is highly recommended because it has a specific inhibition, it is permeable in cells and tissues and has low toxicity. Inhibits activation-induced programmed cell death and restores defective immune responses in HIV+ donors.				
	Cas-No.	66701-25-5	Molecular Formula	C15H27N5O5	Molecular Weight	357.41
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 97 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 2 months	Solubility	15 mg/ml in 1:1 mixture water/ethanol
PPI 1812	E-64 c	L-trans-Epoxy succinyl-Leu-3-methylbutylamide, 2S,3S)-trans-Epoxy succinyl-L-leucylamido-3-methylbutane, EP 475	Calpain, Cathepsin B and L, other Cysteine proteases	bulk		
PPI 1812-1				1 mg		
PPI 1812-5				5 mg		
	Specification	A potent calpain inhibitor and a membrane-impermeable analog of E-64. It shows a better inhibition activity against cathepsins B and L than E-64.				
	Cas-No.	76684-89-4	Molecular Formula	C15H26N2O5	Molecular Weight	314.38
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 98 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 2 months	Solubility	5 mg/ml in DMSO
PPI 1811	E-64 d	L-trans-Epoxy succinyl-Leu-3-methylbutylamide-ethyl ester, L-trans-Epoxy succinyl(OEt)-Leu-3-methylbutylamide, EP453, Aloxiastatin, Loxistatin	Papain, Bromelain, Ficin, Cathepsin B, H and L, Tumor-Cathepsin, Calpain	bulk		
PPI 1811-1				1 mg		
PPI 1811-5				5 mg		
	Specification	An irreversible, highly selective cysteine protease inhibitor and a cell-permeable analog of E-64 but with the difference that E-64 d has no charged groups. Has been used for research studies of muscular dystrophy.				
	Cas-No.	88321-09-9	Molecular Formula	C17H30N2O5	Molecular Weight	342.43
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 98 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 2 months	Solubility	5 mg/ml in ethanol or DMSO
NPI 08	Elastase Inhibitor I	Boc-Ala-Ala-Ala-NHO-Bz	Serine Proteases including Pancreatic Elastase and Thermitase	bulk		
NPI 08-1				1 mg		
NPI 08-10				10 mg		
	Specification	Inhibitor of serine proteases.				
		Molecular Formula	C21H30N4O7	Molecular Weight	450.5	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in acetonitrile, DMSO, EtOH
NPI 10	Elastase/Subtilisin Inhibitor	Boc-Ala-Pro-Phe-NHO-Bz	Members of Cysteine and Serine Proteases, Elastase and Subtilisin	bulk		
NPI 10-1				1 mg		
NPI 10-10				10 mg		
	Specification	Inhibitor of cysteine and serine proteases.				

Cat.-No.	Product Name	Synonym	Target	Quantity
PPI 1210	Epimastatin HCl	[(2R,3R)-3-Amino-2-hydroxy-5-methylhexanoyl]-Val-Val-Asp hydrochloride	Aminopeptidases	bulk
PPI 1210-1				1 mg
PPI 1210-5				5 mg
Specification		A metallo-protease inhibitor showing a selectivity for aminopeptidases. Epimastatin is pharmacologically inactive compared to Amastatin and differs only by a single transposition of an OH group.		
Cas-No.	100992-59-4	Molecular Formula	C ₂₁ H ₃₈ N ₄ O ₈ · HCl	Molecular Weight 474.55
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	
PPI 1710	Epibestatin HCl	[(2R,3R)-3-Amino-2-hydroxy-4-phenylbutanoyl]-L-leucine	Aminopeptidases	bulk
PPI 1710-1				1 mg
PPI 1710-5				5 mg
Specification		A metallo-protease inhibitor showing a selectivity for aminopeptidases.		
Cas-No.	100992-60-7	Molecular Formula	C ₁₆ H ₂₄ N ₂ O ₄ · HCl	Molecular Weight 344.83
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility 25 mg/ml in water
PPI 1910	FALGPA	N-[3-(2-Furyl)acryloyl]-L-leucyl-glycyl-L-prolyl-L-alanine	Aminopeptidases	bulk
PPI 1910-5				5 mg
PPI 1910-25				25 mg
Specification		Substrate for collagenase for the use in a continuously recording spectrophotometric assay reducing the adsorption range to 324 - 345 nm.		
Cas-No.	78832-65-2	Molecular Formula	C ₂₃ H ₃₂ N ₄ O ₇	Molecular Weight 476.52
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 98 %
Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	
PPI 4011	Leupeptin HCl	Acetyl-Leu-Leu-Arg-al hydrochloride	Calpain, Plasmin, Trypsin, Papain, Cathepsin B, H, L, Kallikrein, Thrombin	bulk
PPI 4011-25				25 mg
PPI 4011-100				100 mg
Specification		A potent, reversible inhibitor of serine and cysteine proteases. It showed little to no inhibition activity against: pepsin, cathepsins A and D and alpha-chymotrypsin. All three salt forms are equally effective, when adjusted to their molarity.		
Cas-No.	24125-16-4	Molecular Formula	C ₂₀ H ₃₈ N ₆ O ₄ · HCl	Molecular Weight 463.01
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 95 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 2 months	Solubility 50 mg/ml in water
PPI 4010	Leupeptin Hemisulfate	Acetyl-Leu-Leu-Arg-al, N-Acetyl-L-leucyl-L-leucyl-L-argininal hemisulfate salt	Calpain, Plasmin, Trypsin, Papain, Cathepsin B, H, L, Kallikrein, Thrombin	bulk
PPI 4010-25				25 mg
PPI 4010-100				100 mg
Specification		A potent, reversible inhibitor of serine and cysteine proteases. It showed little to no inhibition activity against: pepsin, cathepsins A and D and alpha-chymotrypsin. All three salt forms are equally effective, when adjusted to their molarity.		
Cas-No.	103476-89-7	Molecular Formula	C ₂₀ H ₃₈ N ₆ O ₄ · 1/2H ₂ SO ₄	Molecular Weight 475.59
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 97 %
Storage	-20 °C	Stability	Lyoph.: 30 months, Stock solution: Aliquots 2 months	Solubility 50 mg/ml in water
PPI 4012	Leupeptin TFA	Acetyl-Leu-Leu-Arg-al trifluoroacetate salt	Calpain, Plasmin, Trypsin, Papain, Cathepsin B, H, L, Kallikrein, Thrombin	bulk
PPI 4012-10				10 mg
PPI 4012-25				25 mg
Specification		A potent, reversible inhibitor of serine and cysteine proteases. It showed little to no inhibition activity against: pepsin, cathepsins A and D and alpha-chymotrypsin. All three salt forms are equally effective, when adjusted to their molarity.		
Cas-No.	147385-61-3	Molecular Formula	C ₂₀ H ₃₈ N ₆ O ₄ · C ₂ H ₃ F ₃ O ₂	Molecular Weight 540.6
Serving	white solid	Quality Control	Analysis by HPLC	Purity > 95 %
Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 2 months	Solubility 50 mg/ml in water

Cat.-No.	Product Name	Synonym	Target	Quantity		
PPI 6010	Pepstatin A	Isovaleryl-L-valyl-L-valyl-[(3S, 4S)-4-amino-3-hydroxy-6-methylheptanoyl]-L- alanyl [(3S,4S)-4-amino-3-hydroxy-6-methylheptanoic acid], Iva-Val-Val-Sta-Ala-Sta	Pepsin, Renin, Cathepsin D, Chymosin, Protease B, retroviral Proteases	bulk 25 mg 100 mg		
	Specification	A potent, reversible, highly selective inhibitor for acid proteases (aspartate proteases). Has shown to inhibit HIV and MMTV proteases and no activity against thiol proteases. Pepstatin is little toxic.				
	Cas-No.	26305-03-3	Molecular Formula	C34H63N5O9	Molecular Weight	685.89
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 98 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 1 month	Solubility	1 mg/ml in ethanol
PPI 6110	Phosphoramidon disodium salt	N-(α-Rhamno pyranosyl oxy hydroxy phosphinyl)-Leu-Trp disodium salt, N-(α-Rhamno pyranosyl phosphono)-L-leucyl-L-tryptophan disodium salt	Thermolysin, Endothelin converting enzyme, Collagenase	bulk 5 mg 25 mg		
	Specification	A potent, reversible inhibitor of metallo-proteases. Inhibition of some metallo-endopeptidases.				
	Cas-No.	119942-99-3	Molecular Formula	C21H40N6O4 · 1/2H2SO4	Molecular Weight	489.62
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: Aliquots 1 month	Solubility	in water
NPI 12	Prolyl Endopeptidase Inhibitor II	Boc-Glu-(NHO-Bz)Pyr	Inhibition of Dipeptidyl Peptidase IV/CD26 and Prolyl Endopeptidase.	bulk 1 mg 10 mg		
	Specification	Prolyl endopeptidase is a large cytosolic enzyme that belongs to a distinct class of serine peptidases and is involved in the maturation and degradation of peptide hormones and neuropeptides. Prolyl endopeptidase inhibitors have been suggested as possible nootropic and antidepressant drugs.				
PPI 4013	Propionyl-leupeptin hemisulfate salt	Propionyl-Leu-Leu-Arg-al hemisulfate	Serine proteases, Cysteine proteases	bulk 25 mg 100 mg		
	Specification	Estrogen receptors are cleaved by endogenous proteases during isolation, but progressively larger complexes are obtained with increasing concentrations of acetyl- and propionyl-leupeptin.				
	Cas-No.	24365-46-6	Molecular Formula	C21H40N6O4 · 1/2H2SO4	Molecular Weight	489.62
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 95 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	in water
NPI 01	Subtilisin Inhibitor I	Boc-Ala-Ala-NHO-Bz	Inhibition of Serine Proteases including Subtilisin and Thermitase	bulk 1 mg 10 mg		
	Specification	Inhibition of Serine Proteases.				
		Molecular Formula	C18H25N3O6	Molecular Weight	378.4	
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 92 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, if stored dry and protected from light	Solubility	acetonitrile, DMSO, EtOH
PPI 8010	TLCK	Tos-Lys-chloromethylketone · HCl, (3S)-7-Amino-1-chloro-3-tosylamino-2-heptanon - Hydrochlorid	Trypsin, Thrombin-like protease Cerastocytin, Proteinkinase C	bulk 100 mg 200 mg		
	Specification	A specific, highly effective, irreversible inhibitor of lysyl endopeptidase. It showed no inhibition of chymotrypsin. Activated caspase proteases can be inhibited with TLCK.				
	Cas-No.	4272-74-6	Molecular Formula	C14H21ClN2O3S · HCl	Molecular Weight	369.31
	Serving	white solid	Quality Control	Analysis by HPLC	Purity	> 98 %
	Storage	-20 °C	Stability	Lyoph.: 24 months, Stock solution: best stability at pH 6.0	Solubility	25 mg/ml in methanol

9.3.2. Protease Inhibitor Cocktail Kits

Cat.-No.	Product Name	Components	Target	Format	Application	Quantity
PPI 1011	Start Perfect	AEBSF Hydrochloride Pepstatin A EDTA Leupeptin Hemisulfate	Serine proteases Aspartic proteases Metalloproteases Cysteine - and Trypsin-like proteases	Lyophilized	Cell extractions	Vial
PPI 1012	Broad Perfect	AEBSF Hydrochloride Aprotinin E-64 EDTA Leupeptin Hemisulfate	Serine proteases Serine proteases and Esterases Cysteine proteases Metalloproteases Cysteine - and Trypsin-like proteases	Lyophilized	Eukaryotic cell extractions	Vial
PPI 1020	Broad 2 Perfect	AEBSF Hydrochloride Aprotinin Bestatin E-64 Leupeptin Hemisulfate Pepstatin A	Serine proteases Serine proteases and Esterases Aminopeptidase B, Leucine aminopeptidase Cysteine proteases Cysteine - and Trypsin-like proteases Aspartic proteases	Lyophilized	Eukaryotic cell extractions	Vial
PPI 1013	Bacteria Perfect	AEBSF Hydrochloride Bestatin E-64 EDTA Pepstatin A	Serine proteases Aminopeptidase B, Leucine aminopeptidase Cysteine proteases Metalloproteases Aspartic proteases	Lyophilized	Bacterial cell extractions	Set of 2 Vials
PPI 1014	Tissue Perfect	AEBSF Hydrochloride Aprotinin Bestatin E-64 Leupeptin Hemisulfate Pepstatin A	Serine proteases Serine proteases and Esterases Aminopeptidase B, Leucine aminopeptidase Cysteine proteases Cysteine - and Trypsin-like proteases Aspartic proteases	Ready-to-use	Mammalian cells and tissue extractions	Vial
PPI 1015	Tissue 2 Perfect	AEBSF Hydrochloride Aprotinin E-64 Leupeptin Hemisulfate	Serine proteases Serine proteases and Esterases Cysteine proteases Cysteine - and Trypsin-like proteases	Lyophilized	Mammalian cells and tissue extractions	Vial
PPI 1016	His Perfect	AEBSF Hydrochloride Bestatin E-64 Phosphoramidon Pepstatin A	Serine proteases Aminopeptidase B, Leucine aminopeptidase Cysteine proteases Metalloproteases Aspartic proteases	Ready-to-use	Extractions of His-tagged proteins	Vial
PPI 1021	Plant Perfect	AEBSF Hydrochloride Bestatin E-64 Leupeptin Pepstatin A 1,10-Phenanthroline	Serine proteases Aminopeptidase B, Leucine aminopeptidase Cysteine proteases Cysteine - and Trypsin-like proteases Aspartic proteases Metalloproteases	Ready-to-use	Extraction of plant tissue	Vial
PPI 1022	Yeast Perfect	AEBSF Hydrochloride E-64 Pepstatin A 1.10-Phenanthroline	Serine proteases Cysteine proteases Aspartic proteases Metalloproteases	Ready-to-use	Extraction of yeast cells and fungi	Vial
PPI 1023	Cystein Perfect	Calpain Inhibitor I Cathepsin Inhibitor I E-64	Calpain I + II, Cathepsin B, L, Papain Cathepsin B, L, S, Papain Cysteine proteases	Ready-to-use	Inhibition of cystein proteases during protein extraction	Vial

9.3.3. Protease and Phosphatase Inhibitor Cocktail Kits

quartett provides **phosphatase inhibitor cocktails kits** as well as **combined cocktails kits** containing phosphatase and protease inhibitors for studying processes that require the protection of proteins from dephosphorylation and proteolysis.

Significance of protease inhibitors: See chapter 9.3.1. (page 242).

Significance of phosphatase inhibitors: Protein phosphorylation performed by protein kinases is a key regulatory mechanism that controls protein activity, interactions, localization, degradation as well as processes of signal transduction, cell cycle, apoptosis, metabolism and others. The reverse reaction (dephosphorylation) is the removal of phosphate from the protein which is performed by protein phosphatases. In research and development, the analysis of cellular processes including protein phosphorylation requires the inhibition of cellular protein phosphatases by suitable inhibitors. The inhibition of phosphatases enables the study of target proteins in the phosphorylation state.

Classification: Similar to protease inhibitors the phosphatase inhibitors are classified on the basis of type of phosphatase they inhibit, or by the mechanism of inhibition. Four main classes are described: alkaline phosphatases, serine / threonine phosphatases, tyrosine phosphatases as well as tyrosine phosphatases with dual specificity for serine and threonine residues.

Cat.-No.	Product Name	Components	Target	Format	Quantity
PPI 1040	Phosphatase Inhibitor Cocktail Kit I	Imidazole Sodium Fluoride Sodium Molybdate Sodium Orthovanadate Sodium Tartrate Dihydrate	The cocktail has been optimized for inhibition of acid and alkaline as well as protein tyrosine phosphatases.	Lyophilized	Set of 5 vials
PPI 1041	Phosphatase Inhibitor Cocktail Kit II	Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosin phosphatases.	Lyophilized	Set of 5 vials
PPI 1042	Protease and Phosphatase Inhibitor Cocktail Kit I	AEBSF Hydrochloride Aprotinine Bestatin Hydrochloride E-64 Leupeptin Hemisulfate Pepstatin A Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, esterases, aminopeptidase B, leucine aminopeptidase, cysteine proteases, cysteine- and trypsin-like proteases, aspartic proteases).	1 ml stock solution	Set of 5 vials
PPI 1043	Protease and Phosphatase Inhibitor Cocktail Kit II	Aprotinine Bestatin Hydrochloride E-64 Leupeptin Hemisulfate Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate optional EDTA	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, esterases, aminopeptidase B, leucine aminopeptidase, cysteine proteases, cysteine- and trypsin-like proteases, optional metalloproteases).	1 ml stock solution and optional 1 ml EDTA	Set of 5 vials
PPI 1044	Protease and Phosphatase Inhibitor Cocktail Kit III	AEBSF Hydrochloride Aprotinine E-64 Leupeptin Hemisulfate Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, esterases, cysteine proteases, cysteine- and trypsin-like proteases).	Lyophilized	Set of 5 vials
PPI 1045	Protease and Phosphatase Inhibitor Cocktail Kit IV	AEBSF Hydrochloride Pepstatin A EDTA Leupeptin Hemisulfate Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, aspartic proteases, metalloproteases, cysteine- and trypsin-like proteases).	Lyophilized	Set of 5 vials

Cat.-No.	Product Name	Components	Target	Format	Quantity
PPI 1046	Protease and Phosphatase Inhibitor Cocktail Kit V	AEBSF Hydrochloride Aprotinine E-64 EDTA Leupeptin Hemisulfate Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, esterases, cysteine proteases, metalloproteases, cysteine- and trypsin-like proteases).	Lyophilized	Set of 5 vials
PPI 1047	Protease and Phosphatase Inhibitor Cocktail Kit VI	AEBSF Hydrochloride Aprotinine Bestatin Hydrochloride E-64 Leupeptin Hemisulfate Pepstatin A Sodium Fluoride Sodium Orthovanadate Sodium Pyrophosphate β-Glycerophosphate	The cocktail has been optimized for inhibition of serine / threonine and protein tyrosine phosphatases as well as a broad range of proteases (serine proteases, esterases, aminopeptidase B, leucine aminopeptidase, cysteine proteases, cysteine- and trypsin-like proteases, aspartic proteases).	Lyophilized	Set of 5 vials

9.4. Collagenase Inhibitors

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Cat.-No.	Product Name	CAS No.	Chemical Name	Quantity
PCI 01	Collagenase (MMP1)	123984-00-9	(Z-Pro-Leu-Ala-NHOH) IC ₅₀ : 10 ⁻⁶ Collagenase; human skin and pollywog	1 mg
PCI 02	Collagenase (MMP1)	123984-15-6	(Z-Pro-D-Leu-D-Ala-NHOH) IC ₅₀ : 10 ⁻⁶ Collagenase; human skin and pollywog	1 mg
PCI 03	Gelatinase B (MMP9)	103145-74-0	(Z-Pro-Leu-Gly-NHOH) IC ₅₀ : 150 μM (C-Proteinase)	1 mg