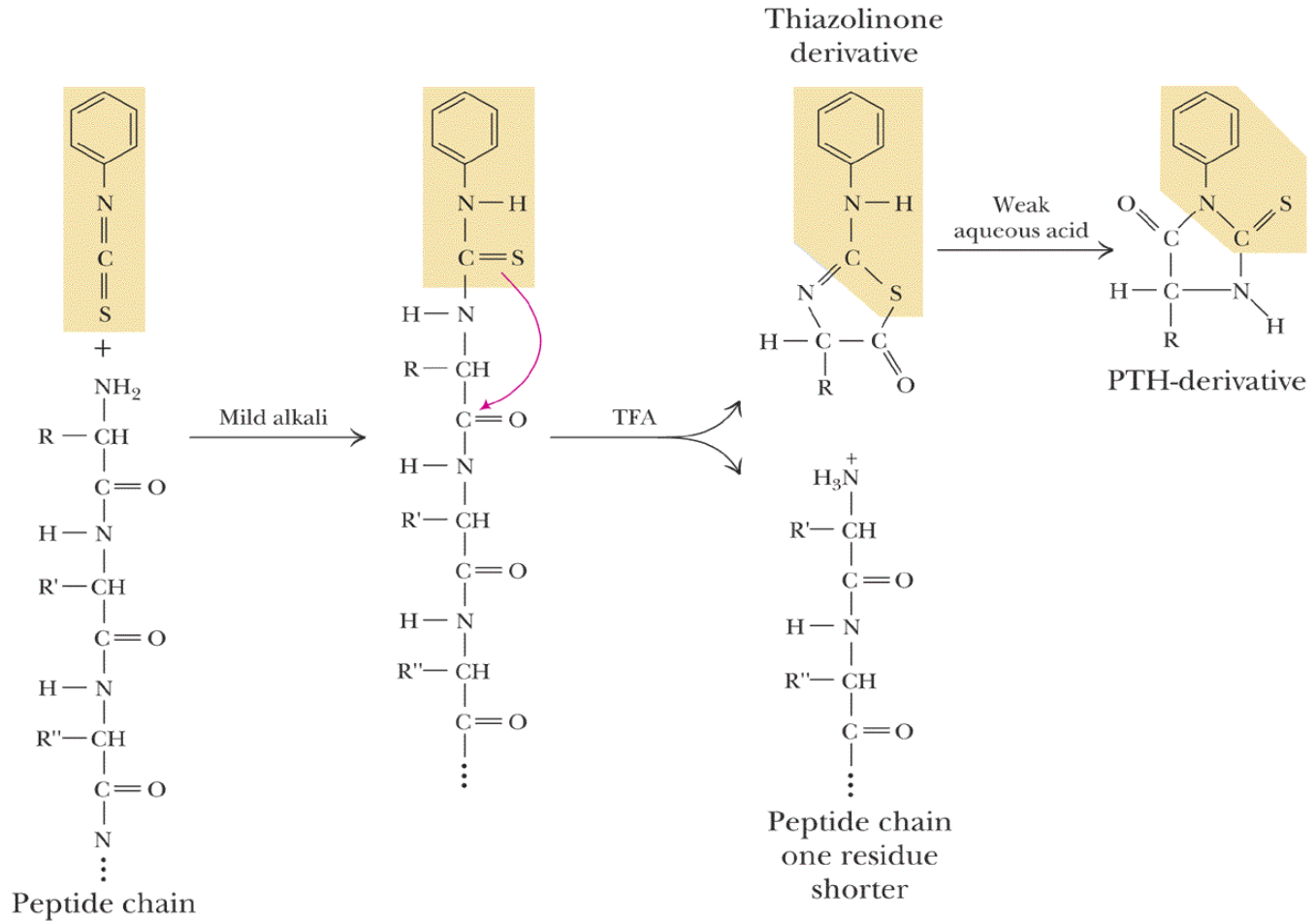


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Enzyme	Source	Specificity	Comments
$ \begin{array}{c} R_{n-1} \quad O \quad R_n \quad O \\ \quad \quad \quad \\ -NH-CH-C-NH-CH-C- \\ \quad \quad \quad \uparrow \\ \text{Scissile} \\ \text{peptide bond} \end{array} $			
Trypsin	Bovine pancreas	R_{n-1} = positively charged residues: Arg, Lys; $R_n \neq$ Pro	Highly specific
Chymotrypsin	Bovine pancreas	R_{n-1} = bulky hydrophobic residues: Phe, Trp, Tyr; $R_n \neq$ Pro	Cleaves more slowly for R_{n-1} = Asn, His, Met, Leu
Elastase	Bovine pancreas	R_{n-1} = small neutral residues: Ala, Gly, Ser, Val; $R_n \neq$ Pro	
Thermolysin	<i>Bacillus thermoproteolyticus</i>	R_n = Ile, Met, Phe, Trp, Tyr, Val; $R_{n-1} \neq$ Pro	Occasionally cleaves at R_n = Asp, His, Thr; heat stable
Pepsin	Bovine gastric mucosa	R_n = Leu, Phe, Trp, Tyr; $R_{n-1} \neq$ Pro	Also others: quite nonspecific; pH optimum = 2
Endopeptidase V8	<i>Staphylococcus aureus</i>	R_{n-1} = Glu	

Carboxypeptidase Cleavage Specificities

Identify C-terminal Residues:

Carboxypeptidase A **R_n ≠ Arg, Lys, Pro; R_{n-1} ≠ Pro**

Carboxypeptidase B **R_n = Arg, Lys; R_{n-1} ≠ Pro**

Carboxypeptidase C **All free C-terminal residues; don't worry about pH**

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