

cOplete, EDTA-free

Protease Inhibitor Cocktail Tablets provided in a glass vial

For the complete inhibition of serine and cysteine proteases during extractions from animal and plant tissues or cells, yeast and bacteria

Cat. No. 11 873 580 001

20 tablets

Cat. No. 05 056 489 001

3 × 20 tablets

Version 12
Content version: April 2016

Store at +2 to +8°C

1. What this Product Does

1.1 Properties

cOplete, EDTA-free tablets inhibit a broad spectrum of serine and cysteine proteases. In contrast to other cOplete tablets they do not contain EDTA leaving the stability and the function of metal dependant proteins unaffected. The affinity purification of Poly-His tagged fusionproteins via IMAC (Immobilized Metal Ion Affinity Chromatography) is also facilitated (no dialysis necessary).

Due to the optimized composition of the tablets they show excellent inhibition of serine and cysteine proteases and are therefore very well suited for the protection of proteins isolated from animal tissues, plants, yeast and bacteria. cOplete, EDTA-free contains both irreversible and reversible protease inhibitors. Metallo and aspartic proteases are not inhibited.

1.2 Contents

- 20 cOplete Protease Inhibitor Cocktail Tablets in a glass vial. Each tablet is sufficient for a volume of 50 ml solution (Cat. No. 11 873 580 001).
- 3 × 20 cOplete Protease Inhibitor Cocktail Tablets in a glass vial. Each tablet is sufficient for a volume of 50 ml solution (Cat. No. 05 056 489 001).

1.3 Stability

- The tablets are stable at +2 to +8°C, stored dry, until expiration date.
- The stock solution is stable for 1–2 weeks, stored at +2 to +8°C, or at least for 12 weeks at –15 to –25° C.

1.4 Application

Used for the inhibition of serine and cysteine proteases in bacterial, yeast, plant and animal cell extracts.

For the inhibition of proteolytic activity in larger volumes, in which EDTA may interfere with protein stability or subsequent assays or purification methods (e.g., IMAC).

2. How to Use this Product

2.1 Preparation of Working Solutions

One tablet cOplete, EDTA-free is sufficient for the inhibition of the proteolytic activity in 50 ml extraction solution. If very high proteolytic activity is present, one tablet should be used for 25 ml extraction buffer. The tablets can be added directly to the extraction medium. Alternatively a stock solution (25 × conc.) can be prepared.

If it is necessary to inhibit proteolytic activity in a smaller volume we recommend to use cOplete, Mini, EDTA-free (1 tablet for 10 ml extraction solution, see "Ordering Information").

2.2 Stock solution (25 × conc.)

Dissolve one tablet cOplete, EDTA-free in 2 ml redist. H₂O or in 2 ml phosphate buffer, 100 mM, pH 7.0.

3. Results

cOplete, EDTA-free tablets are applied to stabilize those extracts where the stability or activity of metal containing proteins should not be effected. Since EDTA interferes with IMAC (immobilized metal affinity chromatography) cOplete, EDTA-free is preferentially used in the isolation process of Poly-His tagged fusion proteins. cOplete, EDTA-free tablets inhibit efficiently serine and cysteine proteases in a broad range but not metalloproteases.

Occasionally, aspartic proteases ("acid proteases") can interfere in isolations from animal tissues or bacterial extracts (1). These proteases, however, exhibit pronounced activities only at low pH values. If extraction or single isolation steps have to be performed at this pH range the addition of pepstatin* is recommended to inhibit aspartic protease activity as a precaution.

To protect proteins from both proteases and phosphatases, combine cOplete Protease Inhibitor Cocktail Tablet with PhosSTOP phosphatase inhibitor cocktail tablet.

Typical values for the inhibition of different proteases and protease mixtures by cOplete, EDTA-free are shown in table 1.

Protease	Enzyme concentration (µg/ml)	pH	% inhibition immediately after adding cOplete	% inhibition 60 min after adding cOplete
Pancreas-extract	20	7.8	84%	94%
Thermolysin (Metalloprotease)	0.5	7.8	7%	10%
Chymotrypsin	2 20	7.8 7.8	90% 60%	100% 98%
Trypsin	20 2	7.8 7.8	70% 81%	74% 86%
Papain	330	7.8	74%	87%

Table 1: Inhibition of different proteases by cOplete Protease Inhibitor Tablets.

One cOplete, EDTA-free tablet was added per 50 ml incubation solution. Proteolytic activity was determined with the Protease Substrate (casein, resorufin-labeled). When extractions or single-step isolations are necessary in the acid pH range, simply include pepstatin along with cOplete, EDTA-free tablets to ensure aspartic (acid) protease inhibition. All experiments were performed at room temperature.

4. Additional Information on this Product

4.1 Absorption

A solution of 1 tablet cOmplete, EDTA-free dissolved in 50 ml H₂O has an absorption of 0.08 at 280 nm.

4.2 Quality Control

The inhibitory activity of each lot is tested with a concentrated pancreas extract. Typically the proteolytic activity is inhibited by 94% after one hour (detection with universal protease substrate, casein, resorufin-labeled*).

4.3 Reference

- North, M.J. (1969) in: Proteolytic Enzymes - A Practical Approach (Beynon, P.J. & Bond, J.S. eds.), IRL press Oxford, pp. 117-119.

4.4 Changes to Previous Version

- Editorial Changes

5. Ordering Information

Product	Pack Size	Cat. No.
Protease Inhibitor Cocktail Tablets in EASYpacks		
cOmplete	20 tablets in foil blisters (for 50 ml each)	04 693 116 001
cOmplete, Mini	30 tablets in foil blisters (for 10 ml each)	04 693 124 001
cOmplete, EDTA-free	20 tablets in foil blisters (for 50 ml each)	04 693 132 001
cOmplete, Mini, EDTA-free	30 tablets in foil blisters (for 10 ml each)	04 693 159 001
Protease Inhibitor Cocktail Tablets in glass vials		
cOmplete	20 tablets in a glass vial (for 50 ml each)	11 697 498 001
	3 × 20 tablets in a glass vial (for 50 ml each)	11 836 145 001
cOmplete, EDTA-free	20 tablets in a glass vial (for 50 ml each)	11 873 580 001
	3 × 20 tablets in a glass vial (for 50 ml each)	05 056 489 001
cOmplete, Mini	25 tablets in a glass vial (for 10 ml each)	11 836 153 001
cOmplete, Mini, EDTA-free	25 tablets in a glass vial (for 10 ml each)	11 836 170 001
Protease Inhibitor Cocktail Tablets with lysis reagents - for bacterial cells (B)		
cOmplete Lysis-B (2×)	1 Kit (100 ml lysis reagents and 20 cOmplete Protease Inhibitor Cocktail Tablets)	04 719 930 001
cOmplete Lysis-B (2×), EDTA-free	1 Kit (100 ml lysis reagents and 20 cOmplete, EDTA-free Protease Inhibitor Cocktail Tablets)	04 719 948 001
- for mammalian cells (M)		
cOmplete Lysis-M	1 Kit (100 ml lysis reagents and 20 cOmplete Protease Inhibitor Cocktail Tablets)	04 719 956 001
cOmplete Lysis-M, EDTA-free	1 Kit (100 ml lysis reagents and 20 cOmplete, EDTA-free Protease Inhibitor Cocktail Tablets)	04 719 964 001
- for yeast cells (Y)		
cOmplete Lysis-Y	1 Kit (100 ml lysis reagents and 20 cOmplete Protease Inhibitor Cocktail Tablets)	04 719 972 001
cOmplete Lysis-Y, EDTA-free	1 Kit (100 ml lysis reagents and 20 cOmplete, EDTA-free Protease Inhibitor Cocktail Tablets)	04 719 999 001
Protease Inhibitor Sets		
Pefabloc SC PLUS	Set I: contains 100 mg Pefabloc SC and 5 ml PSC protector solution	11 873 601 001
	Set II: contains 1g Pefabloc SC and 2 × 25 ml PSC protector solution	11 873 628 001
Protease Inhibitor Set	Small quantities of 10 most commonly used protease inhibitors	11 206 893 001
Protease Activity Test		
Universal Protease Substrate	15 mg	11 080 733 001
	40 mg	11 734 334 001

Product	Pack Size	Cat. No.
Phosphatase Inhibitor Cocktail Tablets		
PhosSTOP	10 tablets in foil blisters (for 10 ml each)	04 906 845 001
	20 tablets in foil blisters (for 10 ml each)	04 906 837 001
Cell Lysis Reagents		
Lysozyme	10 g	10 837 059 001
TriPure Isolation Reagent	50 ml	11 667 157 001
	200 ml	11 667 165 001
DNase I from bovine pancreas	100 ml sterile	11 284 908 001
DNase I recombinant	2 × 10,000 U	04 536 282 001

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