

Product Information

Protease Inhibitor Cocktail

For general use

P2714

Product Description

Crude cell extracts contain various endogenous enzymes, such as proteases and phosphatases, which can degrade proteins in the extracts. The best way to increase the yield of intact proteins is to add inhibitors of those enzymes known to be present.

The P2714 protease inhibitor cocktail has been optimized and tested for general use. P2714 is a mixture of water-soluble protease inhibitors with a broad specificity for the inhibition of serine, cysteine, and metalloproteases.

P2714 is supplied as a lyophilized powder. The inhibitors in P2714 are as follows, with respective specific inhibitor targets and target classes of each inhibitor listed:

- AEBSF [4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride]: serine proteases, such as trypsin, chymotrypsin, plasmin, kallikrein and thrombin
- Aprotinin: serine proteases, such as trypsin, chymotrypsin, plasmin, and kallikrein; human leukocyte elastase, but not pancreatic elastase
- Bestatin hydrochloride: aminopeptidases, such as leucine aminopeptidase and alanyl aminopeptidase¹⁻⁴
- E-64 [*N*-(trans-Epoxy succinyl)-L-leucine 4-guanidinobutylamide]: cysteine proteases, such as calpain, papain, cathepsin B, and cathepsin L
- EDTA: metalloproteases
- Leupeptin hemisulfate salt: serine proteases and cysteine proteases, such as plasmin, trypsin, papain, and cathepsin B

Several theses⁵ and dissertations⁶⁻²⁰ have cited use of product P2714 in their protocols.

Storage/Stability

Store the lyophilized powder at -20 °C. The lyophilized powder is stable for 4 years when stored at -20 °C.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

One bottle prepares 100 mL of cocktail solution.

The product is packaged in a 10 mL serum vial with a crimp cap. Dissolve the contents of the vial in 10 mL of working buffer, then transfer to another container for dilution to 100 mL.

Recommended Usage

- One mL of the P2714 cocktail solution is recommended for the inhibition of endogenous enzymes equivalent to 1 mg of USP pancreatin.
- One bottle is recommended for the inhibition of proteases present in a maximum of 20 g of cell extract.
- **Note:** Not all lysates contain the same levels of endogenous enzymes. It may be necessary to adjust the volume of cocktail required.

References

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