Product Information

ReadyShield™ Protease Inhibitor Cocktail

For Use in Purification of Histidine-Tagged Proteins

PIC0004

Product Description

Crude protein extracts contain endogenous proteases, which can degrade the proteins in the extracts. The best way to increase the yield of intact unmodified proteins is to add inhibitors for the proteases known to be present in the extract.

This ReadyShield™ Protease Inhibitor Cocktail omits chelators (e.g., EDTA), to optimize its use for purification of histidine-tagged proteins.[1] It contains inhibitors with a broad specificity for serine, cysteine, and acid proteases, and aminopeptidases. The cocktail has been tested on extracts from *E. coli* and insect cells.

This cocktail is supplied as a ready-to-use solution using a proprietary non-freezing formulation.

The ReadyShield™ Protease Inhibitor Cocktail for use in purification of histidine-tagged protiens is a non-freezing formulation that contains the same inhibitors as is the DMSO based cocktail P8849.

This cocktail contains five protease inhibitors, with the following specific inhibitory properties:

- AEBSF or 4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride: serine proteases, e.g., trypsin, chymotrypsin, plasmin, kallikrein, and thrombin
- Bestatin hydrochloride: aminopeptidases, e.g., leucine aminopeptidase and alanyl aminopeptidase [2–5]
- E-64 or N-(trans-Epoxysuccinyl)-L-leucine 4-guanidinobutylamide: cysteine proteases, e.g., calpain, papain, cathepsin B, and cathepsin L
- Pepstatin A: acid proteases, e.g., pepsin, rennin, and cathepsin D, and many microbial aspartic proteases
- Phosphoramidon disodium salt: thermolysin and collagenase

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The cocktail is shipped on wet ice and storage at −20 °C is recommended. The product, as supplied, is stable for two years. For short time periods the product can be stored at 2-8 °C.

Procedure

The recommended dilution of the cocktail in the biological extract is 1 ml of the cocktail per 100 ml of lysate from 20 g (wet weight) of *E. coli* cells or 10 g (wet weight) of baculovirus-infected insect (*Spodoptera frugiperda*) cells.

Note: Not all lysates and extracts contain the same levels of endogenous proteases, and it may be necessary to adjust the volume of cocktail used.

References

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5. Mumford, R. A., et al., Biochem. Biophys. Res. Comm., 103(2), 565-572 (1981).

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