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Product Information

Protease Inhibitor Cocktail
Animal Component Free
for use with mammalian cell and tissue extract

Catalog Number **I3786**
Storage Temperature –20 °C

Product Description

Crude cell extracts contain a number of endogenous enzymes, such as proteases and phosphatases, which are capable of degrading the proteins present in the extract. The best way to improve the yield of intact proteins is to add inhibitors of those enzymes known to be present.

This protease inhibitor cocktail has been optimized and tested for mammalian cell and tissue extracts. It contains inhibitors with a broad specificity for serine, cysteine, and acid-proteases, and aminopeptidases. This cocktail is supplied as a ready-to-use solution in DMSO.

Components of this cocktail are of non-animal origin and no animal products were used in the component production process. All vessels and instruments used for the cocktail production are dedicated for animal component free production and have never encountered an animal product. Aprotinin used in this cocktail is a recombinant bovine protein expressed in plants (*Nicotiana*).

Specific inhibitory properties of the components are:

- AEBSF – [4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride] – serine proteases, e.g., trypsin, chymotrypsin, plasmin, kallikrein, and thrombin
- Aprotinin – serine proteases, e.g., trypsin, chymotrypsin, plasmin, and kallikrein; human leukocyte elastase, but not pancreatic elastase.
- Bestatin hydrochloride – aminopeptidases, e.g., leucine aminopeptidase and alanyl aminopeptidase.[1-4]
- E-64 – [N-(*trans*-Epoxysuccinyl)-L-leucine 4-guanidinobutylamide] – cysteine proteases, e.g., calpain, papain, cathepsin B, and cathepsin L.
- Leupeptin hemisulfate salt – both serine and cysteine proteases, e.g., plasmin, trypsin, papain, and cathepsin B.
- Pepstatin A – acid proteases, e.g., pepsin, rennin, cathepsin D, and many microbial aspartic proteases.

Recommended Usage

One ml of the cocktail solution is recommended for the inhibition of endogenous enzymes found in 100 mL of lysate from 20 g (wet weight) of bovine liver or 10 mL of cell lysate obtained from CHO cells at a cell density of 10^8 cells per mL. CHO cells were grown in DMEM with 10% FCS (heat inactivated).

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

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

Store the cocktail at –20 °C.

References

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

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