Product Information

# E64 Ready Made Solution

Non-freezing solution, 1 mg/mL

**SAE0154**

## Product Description

E-64 is an irreversible, potent and highly selective cysteine protease inhibitor. The trans-epoxysuccinyl group of E-64, its active moiety, irreversibly binds to an active thiol group of many cysteine proteases, such as papain, actinidase, and cathepsins B, H and L,[2,3] to form a thioether linkage.

E-64 is reported to be one of the most effective low molecular weight inhibitors of trypsin-catalyzed hydrolysis.[3] E-64 inhibited the activity of bleomycin hydrolase, and blocked the activity of a yeast cysteine protease gene (YCP1) which induces an increase in bleomycin metabolism.[4] For *in vivo* studies, E-64 can be very useful, because it has specific inhibition, it is permeable in cells and tissues, it has low toxicity, it is easily synthesized, and it is stable.[2]

E-64 does not react with the functional thiol group of L-lactate dehydrogenase or creatine kinase, both of which are non-protease enzymes.[5,6] E-64 does not inhibit serine proteases (except trypsin) like the cysteine protease inhibitors leupeptin and antipain.[2,7] It does not react with low MW thiol compounds like 2-mercaptoethanol. E-64 has been used as an active site titrant.[2,8,9] Synthetic[1] and natural[5] methods for E-64 preparation have been reported.

## Reagent

This E-64 Ready Made Solution is supplied as a proprietary 2.8 mM non-freezing solution formulation.

## Storage/Stability

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.

## Preparation Instructions

The stock solution may be diluted at a ratio of 1:100 to 1:1000 to achieve a working concentration in a range between 28 µM and 2.8 µM, respectively. The effective concentration range is 1-10 µM.

## 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.

## References


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4. Pei, Z. *et al*., *Mol. Pharmacol*., **48(4)**, 676-681 (1995).
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9. Buttle, D.J., and Barrett, A.J., *Biochem. J.*, **223(1)**, 81-88 (1984).

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