

## 15-4009: E-64d

**Alternative Name :** Aloxistatin, E-64c ethyl ester, EP 453, EST, Loxistatin, NSC 694281

### Description

**Molecular Formula:** C<sub>17</sub>H<sub>30</sub>N<sub>2</sub>O<sub>5</sub>

**Molecular Weight:** 342.4

Cysteine proteases are a class of enzymes containing an active-site cysteine residue that is important in protein degradation pathways. E-64d, a synthetic analog of E-64 and ethyl ester of E-64c, is an irreversible, membrane-permeable inhibitor of lysosomal and cytosolic cysteine proteases. E-64d inhibits calpain and the cysteine proteases cathepsins F, K, B, H, and L. By disrupting protease activity, E-64d, at concentrations between 20-200 μM, has been shown to arrest human epidermoid carcinoma A431 cells at mitotic metaphase. It also inhibits protease-resistant prion protein accumulation in scrapie-infected neuroblastoma cells with an IC<sub>50</sub> value of 0.5 μM.

### Product Info

<b>Amount :</b>	1 mg / 5 mg
<b>Purification :</b>	≥98%
<b>Content :</b>	E-64d is supplied as a crystalline solid.
<b>Storage condition :</b>	Store at -20°C, product is stable for at least two years.

### Application Note

A stock solution may be made by dissolving the E-64d in the solvent of choice. E-64d is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of E-64d in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

E-64d is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, E-64d should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. E-64d has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

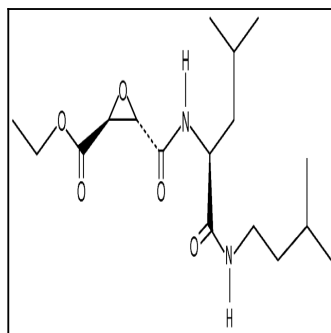


Figure-1: Structure of E-64d.