

10791 Antipain

CAS number: 37691-11-5

Synonyms: [(S)-1-Carboxy-2-phenylethyl]-carbamoyl-L-arginyl-L-valyl-arginal]

Physical Description:

Appearance: Yellow to tan powder (Occasionally, may be a film in smaller packages due to concentration used during lyophilization.)

Molecular formula: C₂₇H₄₄N₁₀O₆

Molecular weight: 604.70g/mol

Stability / Storage as supplied:

It is stable to room temperature shipping.

Solubility / Solution Stability:

Sigma-Aldrich tests this at 5 mg/mL in water/buffer to see a clear to slightly hazy yellow solution. It is reportedly soluble in methanol, water and DMSO; less soluble in ethanol, butanol or propanol; insoluble in benzene, hexane or chloroform.

A stock solution in water or buffer is stable for at least a week at 4°C, and for about a month at -20°C.

Dilute solutions should be stored on ice and kept for only a day because of the terminal aldehyde, which is subject to oxidation and racemization.

General Remarks:

Isolated from a microbial source, antipain is a reversible inhibitor of serine/cysteine proteases and some trypsin-like serine proteases.

Its action resembles leupeptin, but it inhibits plasmin less and cathepsin A more than does leupeptin.

Concentrations for 50% inhibition (in ug/mL): papain, 0.16; trypsin, 0.26; cathepsin A, 1.19; cathepsin B, 0.59; cathepsin D, 125; plasmin, >93; chymotrypsin and pepsin, >250.

It also has been reported to inhibit calpain I, (porcine) with K_i = 1.4 mM

For the specified inhibition activity kindly refer to our sales specifications.

References:

1. Data for Biochemical Research, 3rd Ed., eds. Dawson, R. et al., 328-329 (1987).
2. Suda, H. et al., J. Antibiotics, 25, 263 (1972).
3. Umezawa, H., Methods in Enzymology, 45, 678 (1976).
4. Handbook of Enzyme Inhibitors, 2nd Ed., Part A, ed. Zollner, H., p. 94 (1993).
5. Proteolytic Enzymes: A Practical Approach, eds., Beynon and Bond, p. 242.
6. Sigma-Aldrich quality control or production data.

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.

