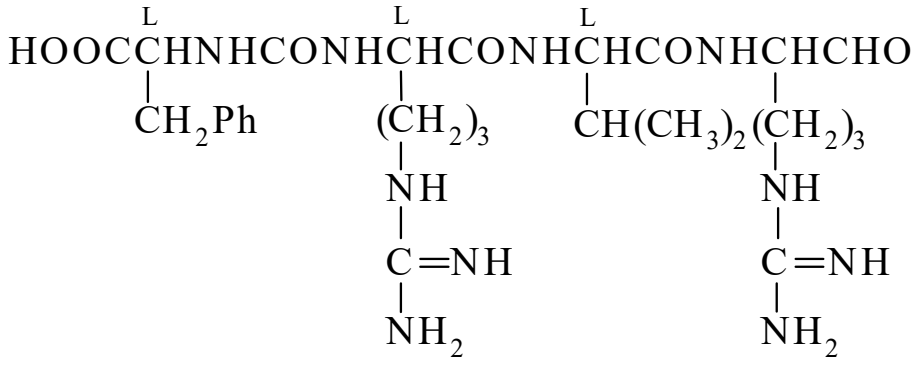
>>**Entry Name: Antipain**

Synonym(s): N^2-[[(1-Carboxy-2-phenylethyl)amino]carbonyl]-L-arginyl-*N*-[4-[(aminoiminomethyl)amino]-1-formylbutyl]-L-valinamide, 9CI



CAS Registry Number: 37691-11-5

Related CAS Registry Numbers(s): 37682-72-7 149116-08-5

Molecular Formula: $C_{27}H_{44}N_{10}O_6$

Molecular Weight: 604.708

Accurate Mass: 604.34453

Percentage Composition: C 53.63%; H 7.33%; N 23.16%; O 15.87%

General Statement: Oligopeptide antibiotic

Biological Source: Isol. from *Streptomyces* spp. Suppresses exp. carcinogenesis

Use/Importance: Inhibits trypsin and papain. Protease inhibitor

Solubility: BERDY SOL: Sol. H_2O; fairly sol. EtOH, butanol; poorly sol. $CHCl_3$, hexane

UV: [neutral] λ_{max} 247 (ε 490); 252 (ε 475); 257 (ε 435); 263 (ε 320); 267 (ε 240) (H_2O) (Derep) [neutral] λ_{max} 247 (E1%/1cm 7.09); 252 (E1%/1cm 6.83); 257 (E1%/1cm 6.29); 263 (E1%/1cm 4.64); 267 (E1%/1cm 3.48) (H_2O) (Berdy)

Hazard & Toxicity: LD_{50} (mus, orl) >500 mg/kg. LD_{50} (mus, ivn) 187 mg/kg. Exp. reprod. effects ; BERDY HAZD : LD_{50} (mus, ipr) 1000 mg/kg

Fluka: 10791

>>**Derivative:** Hydrochloride (1:2)

Melting Point: Mp 170-177°

Optical Rotation: $[\alpha]_D^{20}$ –10 (c, 1 in H_2O)

References:

Suda, H. *et al.*, *J. Antibiot.*, 1972, **25**, 263, *(isol)*

Umezawa, S. *et al.*, *J. Antibiot.*, 1972, **25**, 267, *(struct)*

Umezawa, H., *Methods Enzymol.*, 1976, **45**, 678, *(rev)*

Oka, S. *et al.*, *Agric. Biol. Chem.*, 1979, **43**, 691, *(isol)*

Kennedy, A.R., *Protease Inhibitors as Cancer Chemopreventative Agents*, ed. Troll, W. *et al*, Plenum Press, 1993, 13, *(biol props)*