

Product Data Sheet

Product Name: Actagardin

Cat. No.: GC10552

Chemical Properties

Cas. No. 59165-34-3

Chemical Name D-cysteinyl-L-serylglycyl-L-tryptophyl-L-valyl-L-cysteinyl-(2S,3S)-2-amino-3-mercaptopropanoyl-L-leucyl-(2S,3S)-2-amino-3-mercaptopropanoyl-L-isoleucyl-L-a-glutamyl-L-cysteinylglycyl-(2S,3S)-2-amino-3-mercaptopropanoyl-L-valyl-L-isoleucyl-L-cysteinyl-L-alanyl

SMILES O=C(CN1)N[C@@H](CC2=CNC3=C2C=CC=C3)C(N[C@@H](C(C)C)C(N[C@H](C(N[C@H]([C@H](C)SC[C@](C(NCC(N[C@@]([C@@H]4C)([H])C(N[C@@H](C(C)C)C(N[C@@]5([H])[C@@H](C)CC)=O)=O)=O)=O)([H])NC6=O)C(N[C@@H](CC(C)C)C(N[C@](C(N[C@]([C@@H](C)CC)([H])C(N[C@H]6CCC(O)=O)=O)=O)=O)

Formula C₈₁H₁₂₄N₂₀O₂₄S₄

M.Wt 1890.2

Solubility Soluble in ethanol; methanol; DMSO; dimethyl formamide

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

Actagardin is a tetracyclic antibiotic.

Actagardin is a tetracyclic antibiotic produced by several species of Actinoplanes.

In vitro: During the repeated fermentations of actagardin, two new compounds, named D and E, were isolated. Compound D was found to be twice as active as actagardin against Streptococcus pyogenes C 203 and four times more active than actagardin against Staphylococcus aureus ATCC 6538, S. pneumoniae UC 41, and S. aureus TOUR in

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the in-vitro tests [1].

In vivo: Animal study showed that compound D was also more effective than the parent compound actagardin against experimental infections in mice with either *S. pyogenes* C 203 or *S. aureus* TOUR, after sc administration. However, compound D was ineffective at doses up to 150 mg/kg when given orally to mice infected with *S. pyogenes* C 203. Moreover, compound D (LD50 1,250 mg/kg, mice, ip) was about 2.5 times more toxic than actagardine (3,310 mg/kg). In addition, compound E showed practically no in vitro activity up to 50 µg/ml against the tested organisms [1].

Clinical trial: So far, no clinical study has been conducted.

Reference:

[1] Malabarba A, Landi M, Pallanza R, Cavalleri B. Physico-chemical and biological properties of actagardine and some acid hydrolysis products. *J Antibiot (Tokyo)*. 1985 Nov;38(11):1506-11.

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