Product Data Sheet

Chemical Properties

Product Name: Calpeptin

Cas No.: 117591-20-5

M.Wt: 362.47

Formula: C20H30N2O4

Chemical Name: benzyl
N-[4-methyl-1-oxo-1-(1-oxohexan-2-ylamino)pentan-2-yl]carbamate

Canonical SMILES: CCCCC(C=O)NC(=O)C(C(C)C)NC(=O)OCC1=CC=CC=C1

Solubility: Soluble in DMSO > 10 mM

Storage: Desiccate at 4°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.

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

Biological Activity

Targets: Proteases

Pathways: Calpains

Description:
IC50: 5 nM for human calpain 1
Calpeptin is a calpain inhibitor.
As a calcium-dependent intracellular cysteine protease, calpain plays an key role in various cellular processes including cell differentiation, growth and apoptosis. In rheumatoid arthritis patients, over-expression of calpains are observed in arthritic synovial fluid and are thought to...
play critical roles in various cellular processes.

In vitro: Calpeptin reduced production of TGF-b1, IL-6, angiopoietin-1 and collagen synthesis from lung fibroblasts. Calpeptin also reduced both angiopoietin-1-dependent migration and IL-6-dependent proliferation of the cells, which could be the underlying mechanism of the preventive effect of Calpeptin on pulmonary fibrosis [1].

In vivo: The preventive effect of calpeptin has been examined on bleomycin-induced pulmonary fibrosis in mice. Histological examinations and quantitative measurements of related proteins in bleomycin-treated mouse lung tissues with or without calpeptin were performed. Calpeptin histologically ameliorated bleomycin-induced pulmonary fibrosis in mice. Results showed that calpeptin decreased the expression of IL-6, TGF-b1, angiopoietin-1 and collagen type Ia1 mRNA in mouse lung tissues [1].

Clinical trial: N/A

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.