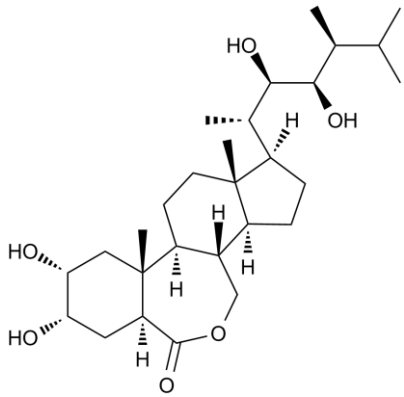
Product Name: Brassinolide

Revision Date: 6/30/2016

Product Data Sheet

Chemical Properties



Product Name: Brassinolide

Cas No.: 72962-43-7

M.Wt: 480.68

Formula: C28H48O6

Synonyms: 24-Epibrassinolide,Brassin lactone

Chemical Name: (3aS,5S,6R,7aR,7bS,9aS,10R,12aS,12bS)-10-((2S,3R,4R,5S)-3,4-dihydroxy-5,6-dimethylheptan-2-yl)-5,6-dihydroxy-7a,9a-dimethyltetradecahydro-1H-benzo[c]indeno[5,4-e]oxepin-3(12bH)-one

Canonical SMILES: CC(C)[C@H](C)[C@@H](O)[C@H](O)[C@@H](C)[C@@]1([H])CC[C@@]2([H])[C@]3([H])COC([C@@]4([H])C[C@H](O)[C@H](O)C[C@]4(C)[C@@]3([H])CC[C@@]21C)=O

Solubility: >48.1mg/ml in DMSO

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.

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

Biological Activity

Targets : Apoptosis

Pathways: Apoptosis Inducers

Description:

IC50: N/A
Brassinolide is a plant growth regulator. Plant growth regulators are naturally produced by plants

and are critical for regulating their own growth. Plant growth regulators act via modifying or controlling plant growth processes, such as leave and flower formation, stem elongation, as well as fruit development and ripening.
In vitro: Brassinolide induced the time and concentration-dependent cytotoxicity in PC-3 cells. The mode of such cell death appeared to be apoptosis predominately, as demonstrated by fluorescence, flow-cytometric analyses and transmission electron microscopes. Moreover, Caspase-3 activity was increased after brassinolide treatment obviously. Western blot studies showed brassinolide treatment triggered a time-dependent decrease in the expression of Bcl-2 [1].
In vivo: Brassinolide had the similar function of reducing the blood glucose levels as phenformin, but without the dose-dependent manner. The blood glucose levels showed significant differences after brassinolide treatment with different doses (200, 100, and 50 mg/kg). These results indicated that brassinolide could reduce the blood glucose levels without toxicity [2].
Clinical trial: So far, no clinical study has been reported.

***Reference**:*

[1] Wu YD,Lou YJ. Brassinolide, a plant sterol from pollen of Brassica napus L., induces apoptosis in human prostate cancer PC-3 cells. Pharmazie.2007 May;62(5):392-5.
[2] CHEN Shi-ping, HE Jia, WANG Qi-jing, WANG Jian-dong, YE Yan-li, XIAN Li-jian. Effect of Brassinolide on Levels of Blood Glucose in Alloxan—induced Diabetes Rats. Acta Metallurgica Sinica, 2009,V26(03): 21-23

Protocol

Cell experiment:

Cell lines	Human prostate cancer PC-3 cell
Preparation method	The solubility of this compound in DMSO is >24.1mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 ℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20℃ for several months.
Reacting conditions	
Applications	Brassinolide induced a time and concentration-dependent cytotoxicity in PC-3 cells. Brassinolide (10, 20 and 40 μM, 12 h) induced a concentration-dependent increase in the apoptotic rate and marked accumulation in G2/M phase of cell cycle. PC-3 cells treated with brassinolide (20 μM, 24 h) showed characteristic apoptotic alterations: shrinking cellular figure, decreasing cell surface microvilli, cytoplasmic vacuoles, chromatin condensation. PC-3 cells treated with brassinolide (20 μM) for 6, 12 and 18 h showed a time-dependent increase in the activity of caspases-3.

Animal experiment [3]:

Animal models	Diabetes rats
Dosage form	Oral administration; 200,100,and 50 mg/kg; once every day for 7 days
Other notes	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

***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. Shortterm 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.

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