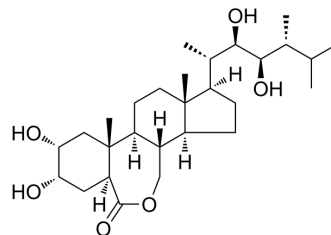


Epibrassinolide

Cat. No.:	HY-N0848		
CAS No.:	78821-43-9		
Molecular Formula:	C ₂₈ H ₄₈ O ₆		
Molecular Weight:	480.68		
Target:	Apoptosis		
Pathway:	Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (208.04 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.0804 mL	10.4019 mL	20.8039 mL
5 mM	0.4161 mL	2.0804 mL	4.1608 mL
10 mM	0.2080 mL	1.0402 mL	2.0804 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Epibrassinolide (24-Epibrassinolide) is a ubiquitously occurring plant growth hormone which shows great potential to alleviate heavy metals and pesticide stress in plants^[1]. Epibrassinolide is a potential apoptotic inducer in various cancer cells without affecting the non-tumor cell growth^[2].

IC₅₀ & Target

Plant growth regulator, Apoptosis inducer^[1]

In Vitro

Epibrassinolide (EBR) is a biologically active compound of the brassinosteroids, steroid-derived plant growth regulator family. Cells are incubated with various doses (0-100 μM) of Epibrassinolide for 24 or 48 h and cell viability is determined by MTT assay. Epibrassinolide induced cell viability loss in dose- and time-dependent manner compared to untreated samples in LNCaP and DU145 prostate cancer cells. Increasing concentrations of Epibrassinolide is more effective on LNCaP cell viability loss than DU145 cells suggesting that androgen-dependent cells are more sensitive to Epibrassinolide than androgen-independent prostate cancer cells. In further experiments, 25 μM Epibrassinolide is selected due to its moderate cytotoxic effect on both cell lines. The effect of Epibrassinolide treatment is examined on cell proliferation by counting the cell number within 96 h. A higher and earlier inhibition of cell proliferation is observed in LNCaP than DU145 cells^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]

LNCaP (CRL-1740) and DU145 (CRL-2698) human prostate cancer cell lines are used. PNT1a normal prostate epithelial cell line is used. Cells are grown in RPMI 1640 medium, supplemented with 10 % fetal bovine serum, 10,000 U penicillin/mL and 10 mg streptomycin/mL. Cells are cultured at 37°C in a humidified 5 % CO₂ incubator (HERA cell 150). Cells are seeded overnight and then treated with the desired drug concentrations. Cells are seeded at 1×10⁴ density per well in 96-well plates and exposed to various concentrations of Epibrassinolide for 24 and 48 h. 10 µL MTT dye (5 mg/mL) is added to each well and cells are kept at 37°C for 4 h. The resulting formazan crystals are solubilized in 200 µL DMSO. The density of the solubilized formazan is read at 570 nm spectrophotometrically^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Dev Cell. 2021 Mar 31;S1534-5807(21)00262-8.
- Bioresour Technol. 2018 Jul;260:124-129.
- Bioresour Technol. 2015 Sep;191:362-8.
- Postharvest Biol Technol. 2024 May, 211, 112832.
- Algal Res. 2015 Sep;11:284-293.

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REFERENCES

[1]. Shahzad B, et al. Role of 24-epibrassinolide (EBL) in mediating heavy metal and pesticide induced oxidative stress in plants: A review. Ecotoxicol Environ Saf. 2018 Jan;147:935-944.

[2]. Obakan P, et al. Activation of polyamine catabolic enzymes involved in diverse responses against epibrassinolide-induced apoptosis in LNCaP and DU145 prostate cancer cell lines. Amino Acids. 2014 Mar;46(3):553-64.

Caution: Product has not been fully validated for medical applications. For research use only.

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