Berberine

Cat. No.:	N1368
CAS No.:	2086-83-1
Formula:	C20H18NO4
M.Wt:	336.36
Synonyms:	Berberine Hydrochloride;Berberine Sulphate
Target:	Natural Products
Pathway:	
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

insoluble in H2O; insoluble in EtOH; ⩾14.95 mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.9730 mL	14.8650 mL	29.7301 mL
5 mM	0.5946 mL	2.9730 mL	5.9460 mL
10 mM	0.2973 mL	1.4865 mL	2.9730 mL

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

Biological Activity

Shortsummary	
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	human hepatoma cell lines (HepG2 cells)
Preparation method:	General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	0.5, 2.5, 5, 7.5, 10, 15 μg/ml, 24 h
	Applications:	Berberine as a new upregulator of liver LDLR (low-density lipoprotein receptor) expression. In HepG2 cells, the effect of berberine was also dose dependent. Northern blot showed a 50% increase in LDLR mRNA in cells treated with 2.5 μg/ml of berberine and a maximal increase of four fold of control was seen with a concentration of 15 μg/ml. The effect of BBR on LDLR was further confirmed in another human hepatoma cell line, Bel-7402. BBR at 2.5 μg/ml increased the LDLR mRNA in these cells by 2.3-fold.
In Vivo	**Animal experiment**	
	Animal models:	female golden hamsters
	Dosage form:	orally twice a day at 50 mg/kg/d or 100 mg/kg/d for 10 d.
	Applications:	In hamsters, treatment of these hyperlipidemic animals with berberine by oral administration for 10 d resulted in dose-dependent decreases in both serum total cholesterol and LDL-c. After the 10-d treatment, berberine at a dose of 50 mg/kg/d reduced LDL-c by 26%, and at a dose of 100 mg/kg/d, reduced LDL-c by 42% as compared to the control animals on the same HFHC (high-fat and high-cholesterol) diet. The berberine effect was also time dependent. LDLR mRNA and protein levels were elevated in all berberine -treated hamsters in a dose-dependent manner. A 3.5-fold increase in mRNA and a 2.6-fold increase in protein in hamster livers treated with 100 mg/kg/d of berberine were detected.
	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.

Product Citations

See more customer validations on www.apexbt.com.

References

[1]. Kong, W.,Wei, J.,Abidi, P., et al. Berberine is a novel cholesterol-lowering drug working through a unique mechanism distinct from statins. Nature Medicine 10(12), 1344-1351 (2004).

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.

APExBIO Technology

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