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产品名称: 2,4-二羟基正丁苯

产品别名: 4-Butylresorcinol; 4-正丁基间苯二酚; Butylresorcinol

生物活性:					
Description	4-Butylresorcinol is a phenol derivative which can inhibit tyrosinase with IC50 of 11.27 μM.				
IC50 & Target	IC50: 11.27 μM (4-Butylresorcinol) ^[1]				
In Vitro	It shows that 4-Butylresorcinol (4-n-butylresorcinol) significantly inhibits melanin synthesis in a concentration-dependent manner. In addition, it is also found to inhibit the activity of tyrosinase, the rate-limiting melanogenic enzyme. 4-Butylresorcinol does not induce ERK, Akt activation, or MITF degradation, and has no effect on cAMP response element binding protein (CREB) phosphorylation, which stimulates MITF expression. 4-Butylresorcinol strongly reduces tyrosinase activity in a cell-free system. Moreover, 4-Butylresorcinol shows an additive effect in combination with hinokitiol, which reduces MITF expression[2].				
Solvent&Solubility	In Vitro: DMSO : 150 mg/mL (902.42 mM; Need ultrasonic and warming)				
	Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
		1 mM	6.0161 mL	30.0806 mL	60.1612 mL
		5 mM	1.2032 mL	6.0161 mL	12.0322 mL
		10 mM	0.6016 mL	3.0081 mL	6.0161 mL
*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液 一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。 储备液的保存方式和期限 -80℃, 6 months; -20℃, 1 month。 -80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。					
References	[1]. Jiang Y, et al. Synthesis and biological evaluation of unsymmetrical curcumin analogues as tyrosinaseinhibitors. <i>Molecules</i> . 2013 Apr 3;18(4):3948-61. [2]. Kim DS, et al. Inhibitory effects of 4-n-butylresorcinol on tyrosinase activity and melanin synthesis. <i>Biol Pharm Bull</i> . 2005 Dec;28(12):2216-9.				
实验参考:					
Cell Assay	Mel-Ab cell line is a mouse-derived spontaneously immortalized melanocyte cell line that produces large amounts of melanin. Mel-Ab cells are incubated in DMEM supplementing with 10% fetal bovine serum (FBS), 100 nM TPA, 1 nM CT, 50 μg/mL streptomycin, and 50 U/mL penicillin at 37 °C in 5% CO2. Cell viability is determined using a crystal violet assay. After incubating cells with test substances for 24 h, the medium is removed and stained with 0.1% crystal violet in 10% ethanol for 5 min at room temperature and then rinsed four times with distilled water ^[2] .				
Kinase Assay	Briefly, Mel-Ab cells are cultured in 60 mm dishes. After incubating with test substances (including 4-Butylresorcinol) in DMEM containing 2% FBS for 4d, the cells are washed with ice-cold PBS and lysed with phosphate buffer (pH 6.8) containing 1% Triton X-100. The cells are then disrupted by freeze-thawing, and lysates are clarified by centrifuging at 10000×g for 5 min. After quantifying protein levels and adjusting concentrations with lysis buffer, 90 μL of each lysate, is placed in a well				



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	of a 96-well plate, and 10 μ L of 10 mM L-DOPA is then added. Control wells contain 90 μ L of lysis buffer and 10 μ L of 10mM L-DOPA[2].
References	[1]. Jiang Y, et al. Synthesis and biological evaluation of unsymmetrical curcumin analogues as tyrosinaseinhibitors. Molecules. 2013 Apr 3;18(4):3948-61. [2]. Kim DS, et al. Inhibitory effects of 4-n-butylresorcinol on tyrosinase activity and melanin synthesis. Biol Pharm Bull. 2005 Dec;28(12):2216-9.



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