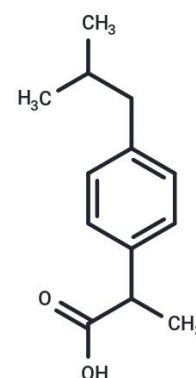


Ibuprofen(布洛芬)(COX 抑制剂)

货号: RPM0027

◆ 产品信息

中文名称/Chinese Name:	Ibuprofen(布洛芬)(COX 抑制剂)
别称/Synonyms:	Brufen, (±)-Ibuprofe, Motrin, Advil, 布洛芬
CAS 号/CAS NO.:	15687-27-1
化学式/Formula:	C ₁₃ H ₁₈ O ₂
分子量/M.Wt:	206.28
外观/Appearance:	固体
保存条件/Storage:	Powder: -20°C, 3 年 Insolvent: -80°C, 1 年



◆ 溶解信息

溶解度/Solubility:	DMSO: 55 mg/mL (266.63 mM)
	Ethanol: 39 mg/mL (189.1 mM)

溶液配制参考/Preparing Stock Solutions:

	1 mg	5 mg	10 mg
1 mM	4.8478 mL	24.2389 mL	48.4778 mL
5 mM	0.9696 mL	4.8478 mL	9.6956 mL
10 mM	0.4848 mL	2.4239 mL	4.8478 mL
50 mM	0.097 mL	0.4848 mL	0.9696 mL

◆ 生物活性

产品描述/Description	Ibuprofen (Advil) 是一种丙酸衍生物和非甾体抗炎药 (NSAID), 具有抗炎、镇痛和解热作用。它是 COX-1 和 COX-2 的抑制剂, IC ₅₀ 值分别为 13 和 370 μM, 导致前列腺素和血栓素前体的形成减少。
靶点活性/Targets (EC ₅₀)	COX-1:13 μM, COX-2:370 μM
体外活性/In vitro	Ibuprofen 抑制酶环氧合酶 COX-1 和 COX-2,其将花生四烯酸转化为前列腺素 H ₂ (PGH ₂)。其作用类似于阿司匹林,吲哚美辛和完整细胞,破碎细胞和纯化酶制剂中的所有其他 NSAID ^[1] 。
体内活性/In vivo	Ibuprofen 与环氧合酶的血红素基团反应以防止花生四烯酸转化。事先在体内接触 Ibuprofen 可以完全保护环氧合酶免受血小板中阿司匹林的不可逆作

	用 ^[2] 。
细胞实验/Cell Research	The effect of NSAID and LPS on bFGF and VEGF was analyzed by ELISA. Cell viability was measured by the MTT method and the proliferation by the [3H-thymidine test. LPS at 100 µg/mL stimulated the secretion of VEGF and bFGF by HMEC-1 cells. Ibuprofen at concentrations of 0.1 and 1 mM intensified the secretion of LPS-induced VEGF in a statistically significant manner ($p < 0.05$). Both concentrations of ibuprofen inhibited LPS-stimulated bFGF secretion ($p < 0.05$) in HMEC-1 in a concentration-dependent manner. The non-selective COX inhibitor decreased proliferation and cell viability induced by LPS in a concentration-dependent manner. ^[3]
动物实验/Animal Research	This study included four groups of adult male Wistar rats; a control group (I) injected intraperitoneally with saline (2 ml/kg/day) for 30 days and 3 ibuprofen-treated groups (IIa, IIb, and IIc) injected intraperitoneally with 6 mg/kg/day, 12 mg/kg/day, and 18 mg/kg/day ibuprofen, respectively, for 30 days, respectively. Mean levels of penile PGE1 and PGF2 α in the control group were significantly higher than ibuprofen-treated groups IIa, IIb, and IIc. The percentage area of collagen around cavernous tissue was significantly higher in ibuprofen-treated groups IIa, IIb, and IIc than control rats. ^[4]

◆ 参考文献

[1] Noreen Y, et al. Development of a radiochemical cyclooxygenase-1 and -2 in vitro assay for identification of natural products as inhibitors of prostaglandin biosynthesis. J Nat Prod. 1998 Jan;61(1):2-7.

[2] Rao GH, et al. Ibuprofen protects platelet cyclooxygenase from irreversible inhibition by aspirin. Arteriosclerosis. 1983 Jul-Aug;3(4):383-8.

[3] Wiktorowska-Owczarek A, Namiecińska M, Owczarek J. THE EFFECT OF IBUPROFEN ON bFGF, VEGF SECRETION AND CELL PROLIFERATION IN THE PRESENCE OF LPS IN HMEC-1 CELLS. Acta Pol Pharm. 2015 Sep-Oct;72(5):889-94. PMID: 26665394.

[4] Elkamshoushi AA, Hassaan P, Nabil I, Ossama H, Omar SS. Regular use of ibuprofen reduces rat penile prostaglandins and induces cavernosal fibrosis. Drug Chem Toxicol. 2022 May;45(3):1339-1344. doi: 10.1080/01480545.2020.1822859. Epub 2020 Sep 23. PMID: 32967484.

◆ 注意事项

1. 请在收到本产品后立即按照说明书中推荐的条件保存，使用前进行离心，使粉末充分沉降于管底。
2. 请根据实验目的及本产品的溶解性，选择相应的溶剂配制成高浓度母液后使用，最佳工作浓度请参考相关文献通过实验摸索优化，本说明书中的数据来源于公开文献，仅供参考。
3. 本产品仅供科研使用，不可用于诊断或治疗领域。
4. 为了您的安全和健康，请穿实验服并戴一次性手套操作。