上海源叶生物科技有限公司
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产品名称：Nintedanib ; BIBF 1120

CAS 号：928326-83-4

产品货号：S88872

生物活性：

Description	Nintedanib (BIBF 1120) 是一种有效的三重血管激酶抑制剂，抑制 VEGFR1/2/3，FGFR1/2/3 和 PDGFRα/β 的 IC50 值分别为 34 nM/13 nM/13 nM，69 nM/37 nM/108 nM 和 59 nM/65 nM。

IC50 & Target	VEGFR1 34 nM (IC_{50}) FGFR2 37 nM (IC50)	VEGFR2 13 nM (IC_{50}) FGFR3 108 nM (IC50)	VEGFR3 13 nM (IC_{50}) PDGFRα 59 nM (IC50)	FGFR1 69 nM (IC_{50}) PDGFRβ 65 nM (IC50)

Cellular Effect

Cell Line	Type	Value	Description
A549	IC_{50}	22.62μM	Antiproliferative activity against human A549 cells after 72 hrs by MTT assay
Calu-6	EC_{50}	> 1μM	Antiangiogenic activity against human Calu6 cells assessed as inhibition of cell proliferation by [3H]thymidine incorporation assay
Calu-6	EC_{50}	> 3500 nM	Antiangiogenic activity in human Calu6 assessed as inhibition of cell proliferation by [3H]thymidine incorporation assay in presence of fetal calf serum
FaDu	EC_{50}	> 1μM	Antiangiogenic activity against human FADU cells assessed as inhibition of cell proliferation by [3H]thymidine incorporation assay
FaDu	EC_{50}	> 4500 nM	Antiangiogenic activity in human FADU assessed as inhibition of cell proliferation by [3H]thymidine incorporation assay in presence of fetal calf serum
HT-29	IC_{50}	0.83μM	Antiproliferative activity against human HT-29 cells after 72 hrs by MTT assay
HT-29	IC_{50}	4.9μM	Antiproliferative activity against human HT-29 cells after 72 hrs by MTT assay
HUVEC	EC_{50}	290 nM	Antiangiogenic activity in HUVEC assessed as inhibition of bFGF-induced cell proliferation by [3H]thymidine incorporation assay
HUVEC	EC_{50}	9 nM	Antiangiogenic activity in HUVEC assessed as inhibition of VEGF-induced cell proliferation by [3H]thymidine incorporation assay
HUVEC	EC_{50}	< 10 nM	Antiangiogenic activity in HUVEC assessed as inhibition of VEGF-induced apoptosis by [3H]thymidine incorporation assay
HUVEC	IC_{50}	10 nM	Antiangiogenic activity in HUVEC assessed as inhibition of VEGF-induced cell proliferation by [3H]thymidine incorporation assay
HeLa	EC_{50}	> 1μM	Antiangiogenic activity against human HeLa cells assessed as inhibition of cell proliferation by [3H]thymidine

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				incorporation assay
	HeLa	EC_{50}	> 3500 nM	Antiangiogenic activity in human HeLa assessed as inhibition of cell proliferation by [3H]thymidine incorporation assay in presence of fetal calf serum
	HeLa	IC_{50}	51.65μM	Antiproliferative activity against human HeLa cells after 72 hrs by MTT assay
	MCF7	IC_{50}	8.28μM	Antiproliferative activity against human MCF7 cells after 72 hrs by MTT assay
	NIH3T3	IC_{50}	2.41μM	Antiproliferative activity against mouse NIH3T3 cells assessed as cell growth inhibition incubated for 24 to 72 hrs by CCK-8 assay
	NRK-49F	IC_{50}	1.1μM	Inhibition of TGF-beta-induced collagen accumulation in rat NRK-49F cells incubated for 2 days by PSR staining based microscopic analysis
	NRK-49F	IC_{50}	1.1μM	Inhibition of TGF-beta-induced collagen accumulation in rat NRK-49F cells incubated for 2 days by PSR staining based microscopic analysis
	PC-3	IC_{50}	< 30μM	Cytotoxicity against human PC3 cells assessed as reduction in cell viability by CellTiter-Fluor assay
	SK-OV-3	IC_{50}	28.76μM	Antiproliferative activity against human SKOV3 cells after 72 hrs by MTT assay
	Sf9	IC_{50}	1.9 nM	Inhibition of N-terminal GST-tagged human recombinant PDGFRalpha D842I mutant expressed in baculovirus-infected Sf9 cells using FAM-labeled peptide and ATP as substrate preincubated for 10 mins followed by substrate addition measured after 1 hr by mobility shift assay
	Sf9	IC_{50}	13 nM	Inhibition of mouse GST-fused VEGFR2 expressed in Sf9 insect cells after 20 mins by scintillation counting
	Sf9	IC_{50}	21 nM	Inhibition of human GST-fused VEGFR2 expressed in Sf9 insect cells after 20 mins by scintillation counting
	Sf9	IC_{50}	5 nM	Inhibition of human VEGFR2 expressed in Sf9 cells

In Vitro	Nintedanib (BIBF 1120) 与激酶结构域氨基末端和羧基末端裂片之间的裂隙中的 ATP 结合位点结合。Nintedanib 抑制 PDGF-BB 刺激的 BRP 增殖，细胞测定中的 EC50 为 79 nM。Nintedanib (100 nM) 在用 5% 血清加 PDGF-BB 刺激后阻断 MAPK 的激活。Nintedanib 可阻止 PDGF-BB 刺激的增殖，在人血管平滑肌细胞 (HUASMC) 培养物中的 EC50 为 69 nM[1]。
In Vivo	Nintedanib (BIBF 1120)（每日口服 25-100 mg/kg）在所有肿瘤模型中均具有高活性，包括在裸鼠体内生长的人类肿瘤异种移植瘤和同源大鼠肿瘤模型。这在 3 天后的肿瘤灌注磁共振成像中很明显，5 天后血管密度和血管完整性降低，生长抑制显著[1]。 Nintedanib 可口服，在体内肿瘤模型中表现出令人鼓舞的疗效，同时耐受性良好[2]。
Solvent&Solubility	**细胞实验:** DMSO 中的溶解度 ：5 mg/mL (9.27 mM; 超声助溶 (<60°C); 吸湿的 DMSO 对产品的溶解度有显著影响，请使用新开封的 DMSO)

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H2O 中的溶解度 ：< 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8532 mL	9.2658 mL	18.5316 mL
	5 mM	0.3706 mL	1.8532 mL	3.7063 mL
	10 mM	---	---	---

*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°C, 2 years; -20°C, 1 year。-80°C 储存时，请在 2 年内使用， -20°C 储存时，请在 1 年内使用。

动物实验：

以下溶解方案，请直接配制工作液。建议现用现配，在短期内尽快用完。 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比； 如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶。

方案 一

请依序添加每种溶剂： 50% PEG300 → 50% Saline

Solubility: 10 mg/mL (18.53 mM); 悬浊液; 超声助溶

方案 二

请依序添加每种溶剂： 1% CMC/0.5% Tween-80 in Saline water

Solubility: 10 mg/mL (18.53 mM); 悬浊液; 超声助溶

参考文献

[1]. Hilberg F, et al. BIBF 1120: triple angiokinase inhibitor with sustained receptor blockade and good antitumor efficacy. Cancer Res, 2008, 68(12), 4774-4782.

[2]. Roth GJ, et al. Design, synthesis, and evaluation of indolinones as triple angiokinase inhibitors and the discovery of a highly specific 6-methoxycarbonyl-substituted indolinone (BIBF 1120). J Med Chem, 2009, 52(14), 4466-4480.

完整储备液配制表：

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° C, 2 years; -20° C, 1 year。-80° C 储存时，请在 2 年内使用， -20° C 储存时，请在 1 年内使用。

可选溶剂	质量 / 溶剂体积 / 浓度	1 mg	5 mg	10 mg	25 mg
DMSO	1 mM	1.8532 mL	9.2658 mL	18.5316 mL	46.3289 mL
	5 mM	0.3706 mL	1.8532 mL	3.7063 mL	9.2658 mL