产品名称：**CYT997 (Lexibulin)**
产品别名：**Lexibulin**

生物活性：

Description

Lexibulin(CYT-997) is a potent tubulin polymerisation inhibitor with IC50 of 10-100 nM in cancer cell lines; with potent cytotoxic and vascular disrupting activity in vitro and in vivo. IC50 value: 10-100 nM(cell assay) [1] Target: tubulin polymerisation inhibitor in vitro: CYT997 prevented the in vitro polymerization of tubulin with an IC50 of ～3 μmol/L (compared with the half-maximal inhibitory concentration of 2 μmol/L for colchicine under identical conditions) as determined using the conventional turbidimetric assay for tubulin polymerization. CYT997 was also capable of reversibly disrupting the microtubule network in cells, visualized using fluorescence microscopy. Thus, treatment of A549 cells with CYT997 (1 μmol/L) lead to the rapid reorganization of microtubules, including the destruction of the existing microtubule network and accumulation of tubulin in plaques within the cytoplasm of some cells. After 24 hours, major alterations in cell morphology were evident, including loss of adhesion and cell rounding. The effect of 1 hour of treatment with CYT997 was reversible and cells rapidly recovered their normal microtubule architecture. Taken together, the data indicates that CYT997 belongs to the class of anticancer agents that disrupt, rather than stabilize, tubulin-containing structures. Although vehicle-treated cells show 15% and 19% in G2-M phase at 15 and 24 hours (respectively), cells treated with CYT997 (1 μmol/L) had 38% and 43% of cells in G2-M at the same time points. Furthermore, at 24 hours post-CYT997 treatment, only 66% of total cells were in the G1, S, and G2-M phases, which suggests that cells blocked at the G2-M boundary do not exit back to G1, as in the normal cell cycle, but most likely are driven towards apoptosis and cell death [1]. Consistent with the disruption of cellular tubulin, CYT997 potently inhibits proliferation, induces cell cycle arrest and most importantly apoptosis of both human myeloma cell lines (HMCLs) and primary MM cells [2]. in vivo: In a xenograft model using the human prostate cancer cell line PC3, oral dosing of CYT997 was initiated 13 days after cell implantation by which time palpable tumors were evident. A dose-dependent inhibition of tumor growth was apparent with CYT997, which at the highest dose was equivalent to parenterally administered paclitaxel. A single dose of CYT997 (7.5 mg/kg i.p.) clearly decreased blood flow in liver metastases, and a significant reduction in blood flow was present 6 hours postdose [1]. CYT997 treatment (15 mg/kg/day) significantly prolongs the survival in a murine model of aggressive systemic myelomatosis [2].

In Vitro:

DMSO : ≥ 100 mg/mL (230.13 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3013 mL	11.5067 mL	23.0134 mL
5 mM	0.4603 mL	2.3013 mL	4.6027 mL
10 mM	0.2301 mL	1.1507 mL	2.3013 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°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

In Vivo:

Solvent&Solubility	请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 **In Vitro** 方式配制澄清的储备液，再依次添加助溶剂： ——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 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 1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: ≥ 2.5 mg/mL (5.75 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.75 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。 2.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (5.75 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.75 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Burns CJ, et al. CYT997: a novel orally active tubulin polymerization inhibitor with potent cytotoxic and vascular disrupting activity in vitro and in vivo. Mol Cancer Ther. 2009 Nov;8(11):3036-45. [2]. Monaghan K, et al. CYT997 causes apoptosis in human multiple myeloma. Invest New Drugs. 2011 Apr;29(2):232-8.