产品名称：**DBeQ**
产品别名：**DBeQ**

生物活性：

Description	DBeQ is a selective, potent, reversible, and ATP-competitive **p97** inhibitor, with an **IC_{50}** value of 1.5 μM and 1.6 μM for p97(wt) and p97(C522A), respectively; DBeQ also inhibits **Vps4** with an **IC_{50}** of 11.5 μM.
IC_{50} & Target	IC50: 1.5 μM (p97)[1], 11.5 μM (Vps4)[2]
In Vitro	DBeQ is a ATP-competitive p97 inhibitor, with an IC50 value of 1.5 μM and 1.6 μM for p97(wt) and p97(C522A), respectively. DBeQ inhibits p97 competitively with respect to ATP, with a Ki of 3.2 ± 0.4 μM. DBeQ inhibits degradation of the p97-dependent substrate UbG76V-GFP, with IC50 value of 2.6 μM. DBeQ (10 μM) also significantly suppresses degradation of TCRα-GFP, induces CHOP but does not increase p21 level. Moreover, DBeQ inhibits the viability of MRC-5, Hek293, HeLa and RPMI8226 cells, with GI50s of 6.6 ± 2.9, 4 ± 0.6, 3.1 ± 0.5 and 1.2 ± 0.3, respectively[1]. DBeQ potently inhibits the AAA ATPase p97 by specifically binding to the ATPase site of its D2 domain (p97D2). DBeQ also inhibits Vps4, with an IC50 of 11.5 μM. Furthermore, DBeQ (30 μM) inhibits hyphal growth of the wild-type cell (strain YLZ0)[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 47 mg/mL (138.06 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9375 mL	14.6877 mL	29.3755 mL
	5 mM	0.5875 mL	2.9375 mL	5.8751 mL
	10 mM	0.2938 mL	1.4688 mL	2.9375 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:

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 (7.34 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (7.34 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 (7.34 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (7.34 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]. Chou TF, et al.Reversible inhibitor of p97, DBeQ, impairs both ubiquitin-dependent and autophagic protein clearance pathways. Proc Natl Acad Sci U S A. 2011 Mar 22;108(12):4834-9. [2]. Zhang Y, et al. The AAA ATPase Vps4 Plays Important Roles in Candida albicans Hyphal Formation and is Inhibited by DBeQ. Mycopathologia. 2016 Jun;181(5-6):329-39.

实验参考：

Cell Assay	Cells are seeded on a 384-well solid white plate (5,000 cells/well). Cells are transfected with luciferase siRNA or p97 siRNA (10 nM) for 48 h or treated with DBeQ for the indicated amount of time. Caspase-3/7 Glo, caspase-6 Glo, caspase-8 Glo, or caspase-9 Glo is added into each well and mixed by shaking at 500 rpm for 1 min. Luminescence signal is determined after incubation at room temperature for 1 h. Cellular viability is determined with CellTiter-Glo reagent. To determine the IC50 of cellular viability, cells are treated with MG132 or DBeQ at seven concentrations (threefold serial dilutions starting at 33 μM) for 48 h. IC50 values are calculated from fitting the percentage of luminescence signal normalized to DMSO treated cells)[1].
References	[1]. Chou TF, et al.Reversible inhibitor of p97, DBeQ, impairs both ubiquitin-dependent and autophagic protein clearance pathways. Proc Natl Acad Sci U S A. 2011 Mar 22;108(12):4834-9. [2]. Zhang Y, et al. The AAA ATPase Vps4 Plays Important Roles in Candida albicans Hyphal Formation and is Inhibited by DBeQ. Mycopathologia. 2016 Jun;181(5-6):329-39.