SZABO SCANDIC

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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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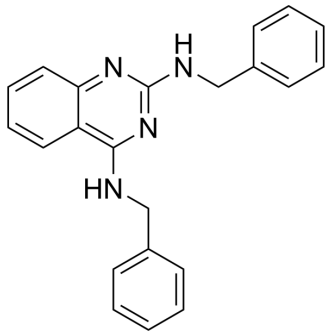
# DBeQ

| | |
|---|---|
| **Cat. No.:** | HY-15945 |
| **CAS No.:** | 177355-84-9 |
| **Molecular Formula:** | $C_{22}H_{20}N_4$ |
| **Molecular Weight:** | 340.42 |
| **Target:** | p97; Autophagy; Apoptosis |
| **Pathway:** | Cell Cycle/DNA Damage; Autophagy; Apoptosis |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 2 years<br>-20°C 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 35.71 mg/mL (104.90 mM; Need ultrasonic)

| 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 |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution

## BIOLOGICAL ACTIVITY

**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 $IC_{50}$ 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 $K_i$ of 3.2 ± 0.4 μM. DBeQ inhibits degradation of the p97-dependent substrate UbG76V-GFP, with $IC_{50}$ value of 2.6 μM. DBeQ (10 μM) also significantly suppresses degradation of TCR α-GFP, induces CHOP but does not increase p21 level. Moreover, DBeQ inhibits the viability of MRC-5, Hek293, HeLa and RPMI8226 cells, with $GI_{50}$s 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 $IC_{50}$ of 11.5 μM. Furthermore, DBeQ (30 μM) inhibits hyphal growth of the wild-type cell (strain YLZ0)[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

**Cell Assay** [1]

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 $IC_{50}$ of cellular viability, cells are treated with MG132 or DBeQ at seven concentrations (threefold serial dilutions starting at 33 μM) for 48 h. $IC_{50}$ values are calculated from fitting the percentage of luminescence signal normalized to DMSO treated cells)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Vet Microbiol. 2022 Jul 12;272:109511.
- Discov Oncol. 2023 Jun 3;14(1):86.

See more customer validations on www.MedChemExpress.com

## 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.



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