

TW-37

Catalog No: tcsc0155



Available Sizes

Size: 10mg

Size: 50mg



Specifications

CAS No:

877877-35-5

Formula:

$C_{33}H_{35}NO_6S$

Pathway:

Apoptosis

Target:

Bcl-2 Family

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 42 mg/mL (73.21 mM)

Observed Molecular Weight:

573.7

Product Description

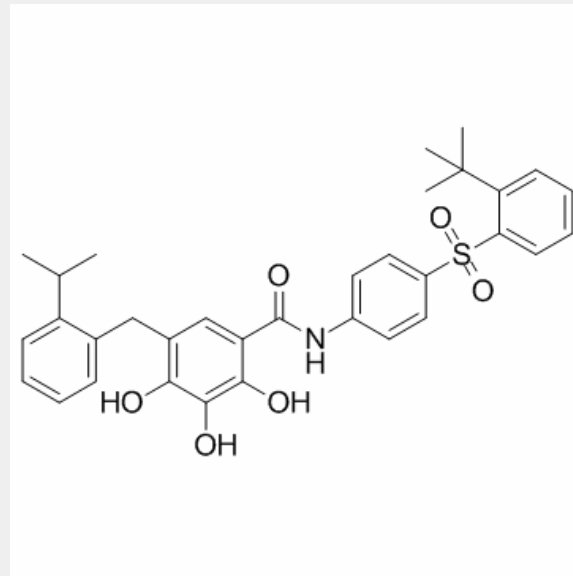
TW-37 is a potent **Bcl-2** inhibitor with K_i values of 260, 290 and 1110 nM for **Mcl-1**, **Bcl-2** and **Bcl-xL**, respectively.

IC50 & Target: K_i : 290 nM (Bcl-2), 1110 nM (Bcl-xL)^[1]

K_i : 260 nM (Mcl-1)^[2]

In Vitro: TW-37 (TW37) is a novel nonpeptide small-molecule inhibitor designed using a structure-based design strategy. TW-37 targets the BH3-binding groove in Bcl-2 where proapoptotic Bcl-2 proteins, such as Bak, Bax, and Bid bind. In fluorescence polarization-based binding assays using recombinant Bcl-2 and Bcl-xL proteins, TW-37 binds to Bcl-2 and Bcl-xL with K_i values of 290 and 1110 nM, respectively. TW-37 has an IC_{50} of 1.8 μ M for endothelial cells but shows no cytotoxic effects for fibroblasts at concentrations up to 50 μ M. The mechanism of TW-37-induced endothelial cell death is apoptosis, in a process mediated by mitochondrial depolarization and activation of caspase-9 and caspase-3. The effect of TW-37 on endothelial cell apoptosis is not prevented by coexposure to the growth factor milieu secreted by tumor cells. Inhibition of the angiogenic potential of endothelial cells (i.e., migration and capillary sprouting assays) and expression of the angiogenic chemokines CXCL1 and CXCL8 are accomplished at subapoptotic TW-37 concentrations (0.005-0.05 μ M)^[1]. TW-37 is a potent Bcl-2 and Mcl-1 inhibitor. In fluorescence polarization-based binding assays using recombinant Bcl-2, Bcl-xL, and Mcl-1 proteins, TW-37 binds to Bcl-2, Bcl-xL, and Mcl-1 with K_i values of 290, 1,110 and 260 nM, respectively^[2].

In Vivo: A murine model of humanized vasculature is used to investigate the biological effect of TW-37 (TW37) on human microvascular endothelial cell in vivo. Using this model, a significant decrease is observed in total blood vessel number (P[1]).



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