

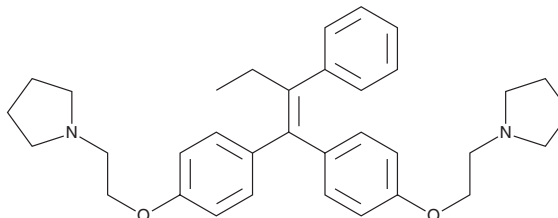
# PRODUCT INFORMATION



## Ridaifen-B

Item No. 21966

**CAS Registry No.:** 886465-70-9  
**Formal Name:** 1,1'-[(2-phenyl-1-buten-1-ylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl)]bis-pyrrolidine  
**MF:** C<sub>34</sub>H<sub>42</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 510.7  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 210, 246, 286 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Ridaifen-B is supplied as a crystalline solid. A stock solution may be made by dissolving the ridaifen-B in the solvent of choice, which should be purged with an inert gas. Ridaifen-B is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ridaifen-B in ethanol and DMF is approximately 20 mg/ml and approximately 2 mg/ml in DMSO.

Ridaifen-B is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ridaifen-B should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Ridaifen-B has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Ridaifen-B is an antagonist of estrogen receptor  $\alpha$  (ER $\alpha$ ; IC<sub>50</sub> = 52.4 nM), an inverse agonist of cannabinoid (CB) receptor 2 (CB<sub>2</sub>; K<sub>i</sub> = 43.7 nM), and a derivative of tamoxifen (Item No. 13258).<sup>1</sup> It is selective for CB<sub>2</sub> over CB<sub>1</sub> receptors (K<sub>i</sub> = 732 nM).<sup>2</sup> Ridaifen-B was designed to be cytotoxic to cancer cells independent of ER binding; it inhibits growth of ER-positive and ER-negative cells in a panel of 39 cancer cell lines (GI<sub>50</sub>s = 0.20-2.14  $\mu$ M).<sup>3</sup> It induces apoptosis and autophagy in ER-negative Jurkat cells when used at a concentration of 0.4  $\mu$ M.<sup>4</sup> Ridaifen-B decreases nitric oxide (NO) production and protein levels of IL-1 $\alpha$  and IL-6 in LPS-stimulated RAW 264.7 cells when used at a concentration of 1  $\mu$ M.<sup>2</sup>

### References

1. Guo, W.-Z., Wang, Y., Umeda, E., *et al.* Search for novel anti-tumor agents from ridaifens using JFCR39, a panel of human cancer cell lines. *Biol. Pharm. Bull.* **36(6)**, 1008-1016 (2013).
2. Franks, L.N., Ford, B.M., Fujiwara, T., *et al.* The tamoxifen derivative ridaifen-B is a high affinity selective CB<sub>2</sub> receptor inverse agonist exhibiting anti-inflammatory and anti-osteoclastogenic effects. *Toxicol. Appl. Pharmacol.* **353**, 31-42 (2018).
3. Shiina, I., Sano, Y., Nakata, K., *et al.* Synthesis and pharmacological evaluation of the novel pseudo-symmetrical tamoxifen derivatives as anti-tumor agents. *Biochem. Pharmacol.* **75(5)**, 1014-1026 (2008).
4. Nagahara, Y., Takeyoshi, M., Sakemoto, S., *et al.* Novel tamoxifen derivative Ridaifen-B induces Bcl-2 independent autophagy without estrogen receptor involvement. *Biochem. Biophys. Res. Commun.* **435(4)**, 657-663 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/21/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM