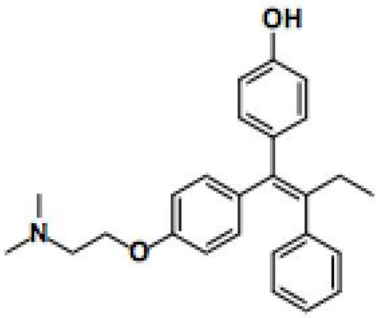
Xcess Biosciences Inc.
7144 N Harlem Ave #169
Chicago, IL 60631 USA

http://www.xcessbio.com
Toll free: 1-866-706-2330
Fax: 1-619- 810-0718
Email: info@xcessbio.com

CRISPR Editing Enhancer – (Z)-4-Hydroxytamoxifen

Chemical Name: (Z)-4-(1-(4-(2-(dimethylamino)ethoxy)phenyl)-2-phenylbut-1-en-1-yl)phenol



Molecular Weight:	387.51
Formula:	$C_{26}H_{29}NO_2$
Purity:	≥98%
CAS#:	68047-06-3
Solubility:	DMSO up to 100 mM EtOH up to 50 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

(Z)-4-Hydroxytamoxifen (also called 4-OH-TAM) was previously characterized as an Estrogen Receptor antagonist and now found to improve genome-editing specificity in CRISPR-mediated gene editing. It can activate intein-linked inactive Cas9, reducing off-target. Such system has ~25-fold higher specificity than wtCas9. (Z)-4-Hydroxytamoxifen is a Tamoxifen metabolite to be used as chemotherapeutic agent. It exhibits greater potency than Tamoxifen.

How to Use:

In vitro: (Z)-4-Hydroxytamoxifen was used at 1 μM final concentration in CRISPR-mediated gene editing experiments.

In vivo: (Z)-4-Hydroxytamoxifen was used at 10 mg/Kg orally for the in vivo animal models.

Reference:

1. Jordan VC, et al. A monohydroxylated metabolite of tamoxifen with potent antioestrogenic activity. (1977) J Endocrinol. 75(2):305-16.
2. Desta Z, et al. Comprehensive evaluation of tamoxifen sequential biotransformation by the human cytochrome P450 system in vitro: prominent roles for CYP3A and CYP2D6. (2004) J Pharmacol Exp Ther. 310(3):1062-75.
3. Davis KM, et al. Small molecule-triggered Cas9 protein with improved genome-editing specificity (2015) Nat Chem Biol. 11(5):316-8.