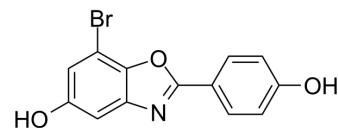


## WAY-200070

Cat. No.:	HY-101271
CAS No.:	440122-66-7
Molecular Formula:	C <sub>13</sub> H <sub>8</sub> BrNO <sub>3</sub>
Molecular Weight:	306.11
Target:	Estrogen Receptor/ERR
Pathway:	Vitamin D Related/Nuclear Receptor
Storage:	Powder    -20°C    3 years 4°C    2 years In solvent   -80°C    2 years -20°C    1 year



### SOLVENT & SOLUBILITY

In Vitro	DMSO : ≥ 31 mg/mL (101.27 mM)					
	* "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	<div>Solvent Concentration</div>	Mass	1 mg	5 mg	10 mg
		1 mM		3.2668 mL	16.3340 mL	32.6680 mL
		5 mM		0.6534 mL	3.2668 mL	6.5336 mL
		10 mM		0.3267 mL	1.6334 mL	3.2668 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 10 mg/mL (32.67 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 10 mg/mL (32.67 mM); Clear solution					

### BIOLOGICAL ACTIVITY

Description	WAY-200070 is a selective estrogen receptor β (ERRβ) agonist with an IC <sub>50</sub> of 2.3 nM.
IC <sub>50</sub> & Target	IC <sub>50</sub> : 2.3 nM (ERRβ), 155 nM (ERRα) <sup>[1]</sup>
In Vivo	Administration of WAY-200070 (30 mg/kg s.c.) causes nuclear translocation of ERRβ receptors in WT mice. Administration of WAY-200070 (30 mg/kg s.c.) produces a delayed 50% increase in dopamine in the striatum of wild type mice. WAY-200070 (30 mg/kg s.c.) reduces immobility time in the mouse tail suspension test indicating an antidepressant-like effect <sup>[1]</sup> . In gonadally intact male and female mice WAY-200070 increases agonistic behaviors such as pushing down and aggressive grooming, while leaving attacks unaffected <sup>[2]</sup> . Ovariectomized (ovx) mice treated with PPT fail to learn the socially acquired

preference, while WAY-200070-treated ovx mice shows a two-fold prolonged preference for the food eaten by their demonstrator<sup>[3]</sup>. WAY-200070, shows significantly decreased anxiety-like behaviors in both the open-field and elevated plus maze and significantly less depressive-like behaviors in the forced swim test<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

### Animal Administration <sup>[1][4]</sup>

**Rats:** Beginning 1 wk after ovariectomy, animals are given a single daily sc injection of hydroxypropyl betacyclodextran [vehicle; 27% (wt/vol) in saline; DPN (2.0 mg/kg), S-DPN (2.0 mg/kg), R-DPN (2.0 mg/kg), WAY-200070-3 (2.0 mg/kg), or PPT (1.0 mg/kg) in a total volume of 0.2 mL. Three hours after the daily treatment injection on d 4-7, animals undergo behavioral testing<sup>[4]</sup>.

**Mice:** WAY-200070 is dissolved in a 10% ethanol/90% miglyol solution. WAY-200070 or vehicle is injected subcutaneously at a volume of 10 mL/kg body weight. Male ER $\beta$ KO, ER $\alpha$ KO (both in C57BL/6 background) and WT C57BL/6 mice are injected with vehicle or WAY-200070 (30 mg/kg s.c.). After 15 min, the animals are sacrificed and the striatum is dissected and quickly frozen in liquid nitrogen and stored at -70°C for subsequent assay<sup>[1]</sup>.

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

## REFERENCES

- [1]. Hughes ZA, et al. WAY-200070, a selective agonist of estrogen receptor beta as a potential novel anxiolytic/antidepressant agent. *Neuropharmacology*. 2008 Jun;54(7):1136-42.
- [2]. Clipperton Allen AE, et al. Agonistic behavior in males and females: effects of an estrogen receptor beta agonist in gonadectomized and gonadally intact mice. *Psychoneuroendocrinology*. 2010 Aug;35(7):1008-22.
- [3]. Clipperton AE, et al. Differential effects of estrogen receptor alpha and beta specific agonists on social learning of food preferences in female mice. *Neuropsychopharmacology*. 2008 Sep;33(10):2362-75.
- [4]. Weiser MJ, et al. Estrogen receptor-beta agonist diarylpropionitrile: biological activities of R- and S-enantiomers on behavior and hormonal response to stress. *Endocrinology*. 2009 Apr;150(4):1817-25.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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