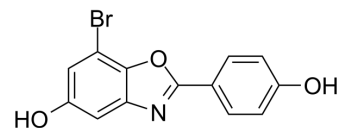


WAY-200070

Cat. No.:	HY-101271		
CAS No.:	440122-66-7		
Molecular Formula:	C ₁₃ H ₈ BrNO ₃		
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	Solvent Concentration	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

- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 10 mg/mL (32.67 mM); Clear solution
- 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 IC₅₀ of 2.3 nM.

IC₅₀ & Target

IC₅₀: 2.3 nM (ERRβ), 155 nM (ERRα)^[1]

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^[1]. In gonadally intact male and female mice WAY-200070 increases agonistic behaviors such as pushing down and aggressive grooming, while leaving attacks unaffected^[2]. 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^[3]. 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^[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^{[1][4]}

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^[4].

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 β KO, ER α 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^[1].

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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