SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Estradiol

Cat. No.: HY-B0141

CAS No.: 50-28-2

Molecular Formula: $C_{18}H_{24}O_2$

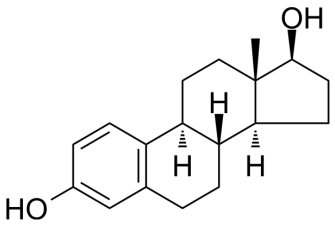
Molecular Weight: 272.38

Target: Estrogen Receptor/ERR; Endogenous Metabolite; Bacterial

Pathway: Vitamin D Related/Nuclear Receptor; Metabolic Enzyme/Protease; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (229.46 mM; ultrasonic and warming and heat to 60°C)
Ethanol : 20 mg/mL (73.43 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.6713 mL	18.3567 mL	36.7134 mL
5 mM	0.7343 mL	3.6713 mL	7.3427 mL
10 mM	0.3671 mL	1.8357 mL	3.6713 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: corn oil
   Solubility: 12.5 mg/mL (45.89 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.18 mM); Clear solution
3. Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
   Solubility: 2.5 mg/mL (9.18 mM); Suspended solution; Need ultrasonic
4. Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.18 mM); Clear solution
5. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.64 mM); Clear solution
6. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	Estradiol (β-Estradiol) is a steroid hormone and the major female sex hormone. Estradiol can up-regulate the expression of neural markers of human endometrial stem cells (hEnSCs) and promote their neural differentiation. Estradiol can be used for the research of cancers, neurodegenerative diseases and neural tissue engineering[1][2].
IC_{50} & Target	Human Endogenous Metabolite

In Vitro

Estradiol (10 nM, 7 days) induces neural differentiation and increased neurite branching of human endometrial stem cells (hEnSCs)[1].
Estradiol (17β-estradiol, 10 nM, 7 days) increases the expression of neuron-like cell markers (Tuj-1, nestin and NF-H) in neural-like cells differentiated from hEnSCs[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Differentiation Assay[1]

Cell Line:	Isolated human endometrial stem cells (hEnSCs) from human endometrial tissue
Concentration:	10 nM
Incubation Time:	7 days
Result:	Increased the number of neurite processes including neural differentiation and neurite branching.

Immunofluorescence[1]

Cell Line:	Isolated human endometrial stem cells (hEnSCs) from human endometrial tissue
Concentration:	10 nM
Incubation Time:	7 days
Result:	Increased the percentage of neural marker (Tuj-1, nestin and NF-H)-positive cells of 62.2±1.3%, 71.5±4% and 51.2±1.5% respectively.

In Vivo

Estradiol (1 nM, the hippocampal slices from FBN-ARO-KO mice) rescues long-term potentiation (LTP) amplitude[1].
Estradiol (0.0167 mg, implanted s.c., FBN-ARO-KO mice) rescues the molecular and functional deficits in FBN-ARO-KO mice [1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	FBN-ARO-KO Mice[2]
Dosage:	1 nM
Administration:	Treated for the hippocampal slices
Result:	Rescued long-term potentiation (LTP) amplitude of both male and female mice.

Animal Model:	FBN-ARO-KO Mice[2]
Dosage:	0.0167 mg
Administration:	Alzet minipumps with Estradiol (implanted s.c.), examined 7 days after minipump implantation.
Result:	Restored hippocampal and cortical E2 levels to 93%, phosphorylation of AKT, ERK and CREB in the hippocampus and cortex to 90-95%, BDNF level to 80-90%, restored both

	synaptophysin and PSD95 in the forebrain. Rescued the spatial learning and memory defects.

CUSTOMER VALIDATION

- Neuro Oncol. 2024 Jan 5;26(1):137-152.
- Nat Chem Biol. 2022 Aug 18.
- Biosens Bioelectron. 12 July 2022, 114548.
- Theranostics. 2020 Aug 29;10(24):10874-10891.
- Pharmacol Res. 2021 Dec 29;106050.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Elham Hasanzadeh. Defining the role of 17β-estradiol in human endometrial stem cells differentiation into neuron-like cells. Cell Biol Int. 2021 Jan;45(1):140-153.

[2]. Yujiao Lu, et al. Neuron-Derived Estrogen Regulates Synaptic Plasticity and Memory. J Neurosci. 2019 Apr 10;39(15):2792-2809.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA