Dehydroisoandrosterone 3-acetate

Cat. No.: HY-B1405

CAS No.: 853-23-6

Molecular Formula: $C_{21}H_{30}O_3$

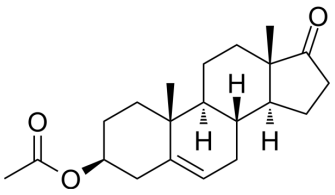
Molecular Weight: 330.46

Target: Androgen Receptor

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 : 14.29 mg/mL (43.24 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0261 mL	15.1304 mL	30.2609 mL
5 mM	0.6052 mL	3.0261 mL	6.0522 mL
10 mM	0.3026 mL	1.5130 mL	3.0261 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.43 mg/mL (4.33 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.43 mg/mL (4.33 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.43 mg/mL (4.33 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dehydroepiandrosterone 3-acetate is a testosterone/estrogen precursor and known modulator of vertebrate aggression.

In Vivo

Dehydroisoandrosterone implants increases aggression in a laboratory-based simulated territorial intrusion. Brains of Dehydroisoandrosterone-implanted birds show higher aromatase mRNA expression in the preoptic area (POA) and higher androgen receptor mRNA expression in the periventricular nucleus of the medial striatum (pvMSt) and ventromedial nucleus of the hypothalamus (VMH). The Dehydroisoandrosterone-induced increases in aromatase expression in the POA and

androgen receptor expression in the pvMSt are consistent with previously reported seasonal increases in these markers associated with naturally elevated Dehydroisoandrosterone levels[1]. Dehydroisoandrosterone supplementation (10.2 mg/kg) alone significantly increases mice body weight (BW), muscle weight, testosterone level, and glycogen contents (liver and muscle) when compared with SC group[2].

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

PROTOCOL

Animal Administration [2]

The oral gavage treated with Dehydroisoandrosterone once a day for 6-week at 10.2 mg/day. SC group receives the same volume of distilled water equivalent to body weight. The Dehydroisoandrosterone supplementation in WBV+Dehydroisoandrosterone group is complete WBV training after 30 min. The recommended use of Dehydroisoandrosterone for humans is about 50 mg per one intake with a normal diet and exercise program. The mouse Dehydroisoandrosterone dose (10.2 mg/kg) used in this study is converted from a human equivalent dose on the basis of body surface area by the following formula from the US Food and Drug Administration 16: assuming a human weight of 60 kg, the human equivalent dose of 50 mg/60 kg (0.83 mg/kg)=0.83 × 12.3=a mouse dose of 10.2 mg/kg; the conversion coefficient 12.3 is used to account for differences in body surface area between a mouse and a human.

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

CUSTOMER VALIDATION

- Biochemistry and Molecular Biology. 2020 Jul.

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REFERENCES

[1]. Wacker DW, et al. Dehydroepiandrosterone (DHEA) heightens aggression and increases androgen receptor and aromatase mRNA expression in the brain of a male songbird. J Neuroendocrinol. 2016 Nov 2

[2]. Chen WC, et al. Dehydroepiandrosterone Supplementation Combined with Whole-Body Vibration Training Affects Testosterone Level and Body Composition in Mice. Int J Med Sci. 2016 Sep 16;13(10):730-740

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