

Product Data Sheet

Product Name: Testosterone cypionate

Cat. No.: GC19942

Chemical Properties

Cas. No. 58-20-8

Formula $C_{27}H_{40}O_3$

M.Wt 412.61

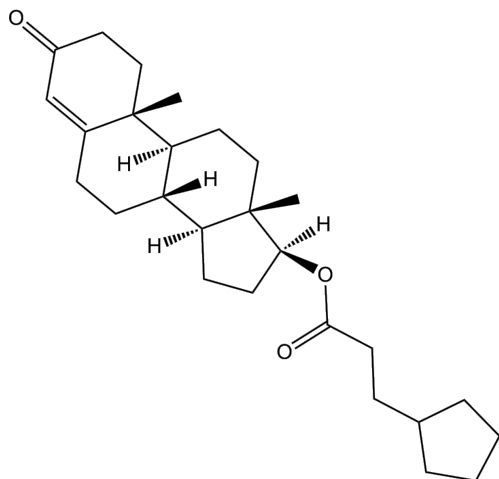
Solubility

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Animal experiment [1]:

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Animal models C57BL/6J mice

Preparation Method Mice were submitted to severe controlled cortical impact (CCI) traumatic brain injury. Testosterone cypionate (15mg/kg) or vehicle was administered subcutaneously daily starting 24 hours after injury for 10 days. Mice were sacrificed 10 days after CCI for neurochemical analysis of ipsilateral cortex.

Dosage form 15mg/kg; subcutaneous injection; daily for 10 days

Applications Testosterone cypionate administration improved mitochondrial Ca^{2+} extrusion through NCLX exchanger, enhanced ATP synthesis efficiency, reduced H_2O_2 production, and downregulated molecular drivers of neurodegeneration (including pTauSer396, alpha-Spectrin fragmentation, caspase-3 activation, and Bax/BCL-2 ratio) after traumatic brain injury.

References:

[1] Daniel PV, Puri G, Luo Y, et al. Silencing of S100A11 attenuates murine metabolic dysfunction-associated steatohepatitis. NPJ Gut Liver. 2025;2(1):32.

Background

Testosterone cypionate is an oil-soluble testosterone prodrug with a long elimination half-life, acting as an androgen receptor (AR) agonist. Testosterone cypionate promotes protein anabolism, reduces protein catabolism, and increases erythropoiesis by activating the androgen receptor. Testosterone cypionate is primarily used to treat male low testosterone levels, hypogonadism, and cryptorchidism^[1-4].

In vivo, Testosterone cypionate (0.3mg/ml, 1.5mg/ml, 3.0mg/ml; 0.1ml/10g) was administered as a single intramuscular injection to 6-8 week old male Swiss mice. Testosterone cypionate (3.0mg/ml) induced micronucleus formation and reduced the PCE/NCE ratio, resulting in genotoxicity and

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cytotoxicity^[5]. Testosterone cypionate (15mg/kg) was administered subcutaneously once daily for 10 days to C57BL/6J male mice with severe controlled cortical impact traumatic brain injury. Testosterone cypionate improved mitochondrial calcium ion efflux and ATP synthesis efficiency, and downregulated molecular drivers of neurodegeneration^[6].

References:

- [1] Rivero MJ, Ory J, Diaz P, et al. Comparison of Hematocrit Change in Testosterone-deficient Men Treated With Intranasal Testosterone Gel vs Intramuscular Testosterone Cypionate: A Randomized Clinical Trial. J Urol. 2023 Jul;210(1):162-170.
- [2] Ponce MB, Schauburger E, Connor E, et al. Delayed hypersensitivity reaction to testosterone cypionate injections. Contact Dermatitis. 2024 Oct;91(4):364-365.
- [3] Pan MM, Kovac JR. Beyond testosterone cypionate: evidence behind the use of nandrolone in male health and wellness. Transl Androl Urol. 2016 Apr;5(2):213-9.
- [4] Damião B, Rossi-Junior WC, Guerra FDR, et al. Anabolic steroids and their effects of on neuronal density in cortical areas and hippocampus of mice. Braz J Biol. 2021 Jul-Sep;81(3):537-543.
- [5] Meireles JR, Oliveira SV, Costa-Neto AO, et al. Genotoxic and cytotoxic effects of testosterone cypionate (deposteron®). Mutat Res. 2013 May 15;753(2):72-5.
- [6] Carteri RB, Kopczynski A, Rodolphi MS, et al. Testosterone Administration after Traumatic Brain Injury Reduces Mitochondrial Dysfunction and Neurodegeneration. J Neurotrauma. 2019 Jul 15;36(14):2246-2259.

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