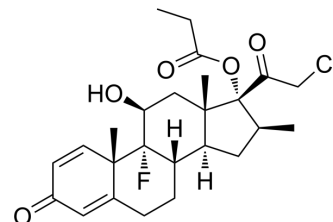


## Clobetasol propionate

|                    |                                                                                                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cat. No.:          | HY-13600                                                                                                                                                                       |
| CAS No.:           | 25122-46-7                                                                                                                                                                     |
| Molecular Formula: | C <sub>25</sub> H <sub>32</sub> ClFO <sub>5</sub>                                                                                                                              |
| Molecular Weight:  | 466.97                                                                                                                                                                         |
| Target:            | Cytochrome P450                                                                                                                                                                |
| Pathway:           | Metabolic Enzyme/Protease                                                                                                                                                      |
| Storage:           | <div> <div>Powder</div> <div>-20°C    3 years</div> <div>4°C    2 years</div> </div> <div> <div>In solvent</div> <div>-80°C    2 years</div> <div>-20°C    1 year</div> </div> |



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (214.15 mM)  
 \* "≥" means soluble, but saturation unknown.

|                              | Solvent<br>Concentration | Mass | 1 mg      | 5 mg       | 10 mg      |
|------------------------------|--------------------------|------|-----------|------------|------------|
|                              |                          |      |           |            |            |
| Preparing<br>Stock Solutions | 1 mM                     |      | 2.1415 mL | 10.7073 mL | 21.4147 mL |
|                              | 5 mM                     |      | 0.4283 mL | 2.1415 mL  | 4.2829 mL  |
|                              | 10 mM                    |      | 0.2141 mL | 1.0707 mL  | 2.1415 mL  |

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.5 mg/mL (5.35 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (5.35 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Clobetasol propionate is a potent and selective CYP3A5 inhibitor with an IC<sub>50</sub> of 0.206 μM. Clobetasol propionate has no inhibiting on CYP3A4 or other major CYPs. Clobetasol propionate is a corticosteroid and has the potential for psoriasis and other dermatoses research<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| CYP3A5<br>0.206 μM (IC <sub>50</sub> ) | CYP3A4<br>15.6 μM (IC <sub>50</sub> ) |
|----------------------------------------|---------------------------------------|

#### In Vitro

Clobetasol propionate has an IC<sub>50</sub> of 15.6 μM for CYP3A4<sup>[1]</sup>.  
 Clobetasol propionate (1 μM; 24 hours) selectively inhibits CYP3A5 and does not increase the protein level of CYP3A4.

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Clobetasol propionate does not affect cell growth in any cell line (AsPC-1 wild-type (WT), AsPC-1 <sup>CYP3A5-/-</sup> cells with CYP3A5 overexpression ( "3A5 <sup>-/-</sup> + 3A5 <sup>OE</sup> " cells), and AsPC-1 <sup>CYP3A5-/-</sup> cells with CYP3A4 overexpression ( "3A5 <sup>-/-</sup> + 3A4 <sup>OE</sup> " cells))[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| In Vivo | Clobetasol propionate (applied topically; daily for 14 days) reduces the epidermal thickness of both normal and psoriatic skin in human psoriatic skin-SCID mouse transplant model topical application[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only.                                                                                                                           |

## CUSTOMER VALIDATION

- Adv Funct Mater. 2025 Apr 21.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. William C Wright, et al. Clobetasol Propionate Is a Heme-Mediated Selective Inhibitor of Human Cytochrome P450 3A5. J Med Chem. 2020 Feb 13;63(3):1415-1433.
- [2]. Steven R Feldman, et al. Topical clobetasol propionate in the treatment of psoriasis: a review of newer formulations. Am J Clin Dermatol. 2009;10(6):397-406.
- [3]. M Zeigler, et al. Anti-CD11a ameliorates disease in the human psoriatic skin-SCID mouse transplant model: comparison of antibody to CD11a with Cyclosporin A and clobetasol propionate. Lab Invest. 2001 Sep;81(9):1253-61.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

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