



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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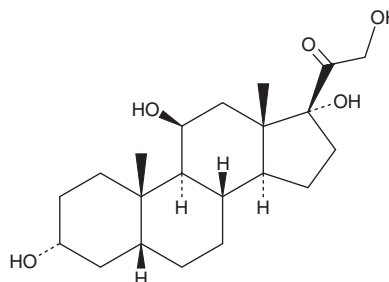
# PRODUCT INFORMATION



## 5 $\beta$ -Tetrahydrocortisol

Item No. 34195

**CAS Registry No.:** 53-02-1  
**Formal Name:** (3 $\alpha$ ,5 $\beta$ ,11 $\beta$ )-3,11,17,21-tetrahydroxy-pregnan-20-one  
**Synonym:** NSC 57431  
**MF:** C<sub>21</sub>H<sub>34</sub>O<sub>5</sub>  
**FW:** 366.5  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

5 $\beta$ -Tetrahydrocortisol is supplied as a solid. A stock solution may be made by dissolving the 5 $\beta$ -tetrahydrocortisol in the solvent of choice, which should be purged with an inert gas. 5 $\beta$ -Tetrahydrocortisol is soluble in the organic solvent chloroform at a concentration of approximately 10 mg/ml.

### Description

5 $\beta$ -Tetrahydrocortisol is an endogenous metabolite of hydrocortisone (cortisol; Item No. 20739).<sup>1,2</sup> It is also an intermediate in the biosynthesis of  $\beta$ -cortol (Item No. 33412).<sup>2</sup> It is formed from cortisol by steroid 5 $\beta$ -reductase and is dehydrogenated by 20 $\beta$ -hydroxysteroid dehydrogenase (20 $\beta$ -HSD) to produce  $\beta$ -cortol in the liver.<sup>1-3</sup> Urinary levels of 5 $\beta$ -tetrahydrocortisol have been used as a marker for cortisol production and are associated with metabolic syndrome in obese individuals.<sup>4</sup>

### References

1. Shackleton, C.H.L. Role of a disordered steroid metabolome in the elucidation of sterol and steroid biosynthesis. *Lipids* **47**(1), 1-12 (2012).
2. Schiffer, L., Barnard, L., Baranowski, E.S., *et al.* Human steroid biosynthesis, metabolism and excretion are differentially reflected by serum and urine steroid metabolomes: A comprehensive review. *J. Steroid Biochem. Mol. Biol.* **194**, 105439 (2019).
3. Kosicka, K., Siemiątkowska, A., Pałka, D., *et al.* Detailed analysis of cortisol, cortisone and their tetrahydro- and allo-tetrahydrometabolites in human urine by LC-MS/MS. *J. Pharm. Biomed. Anal.* **140**, 174-181 (2017).
4. Baudrand, R., Campino, C., Carvajal, C.A., *et al.* Increased urinary glucocorticoid metabolites are associated with metabolic syndrome, hypoadiponectinemia, insulin resistance and  $\beta$  cell dysfunction. *Steroids* **76**(14), 1575-1581 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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