

# Product Information



## Treprostinil

Item No. 10162

**CAS Registry No.:** 81846-19-7  
**Formal Name:** [[(1R,2R,3aS,9aS)-2,3,4,9,9a-hexahydro-2-hydroxy-1-[(3S)-3-hydroxyoctyl]-1H-benz[f]inden-5-yl]oxy]acetic acid

**Synonym:** Remodulin®

**MF:** C<sub>23</sub>H<sub>34</sub>O<sub>5</sub>

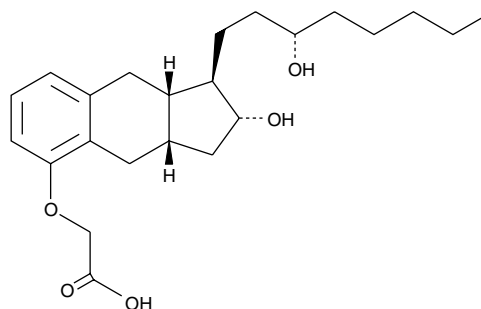
**FW:** 390.5

**Purity:** ≥98%

**Stability:** ≥1 year at -20°C

**Supplied as:** A crystalline solid

**UV/Vis.:** λ<sub>max</sub>: 206, 218, 277 nm



### Laboratory Procedures

For long term storage, we suggest that Treprostinil be stored as supplied at -20°C. It should be stable for at least one year.

Treprostinil is supplied as a crystalline solid. A stock solution may be made by dissolving the Treprostinil in an organic solvent purged with an inert gas. Treprostinil is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Treprostinil in ethanol and DMSO is approximately 20 mg/ml, and in DMF it is approximately 30 mg/ml.

Treprostinil is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, treprostinil should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Treprostinil has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Primary pulmonary hypertension (PPH) is a condition of unknown cause that is characterized by increasing pulmonary arterial and vascular resistance. Treprostinil is a stable analog of prostacyclin that is used clinically for the treatment of PPH under the trade name Remodulin®. The structural modifications in treprostinil compared to prostacyclin increase the plasma half-life from 2 minutes to 34 and 85 minutes for intravenous and subcutaneous infusion of the drug, respectively.<sup>1</sup> In addition to treprostinil's direct vasodilatory effects, it also inhibits inflammatory cytokine (TNFα, IL-1β, IL-6, GM-CSF) production by human alveolar macrophages in the sub-micromolar range by preventing NF-κB translocation to the nucleus.<sup>2</sup>

### References

1. Olschewski, H., Rose, F., Schermuly, R., *et al.* Prostacyclin and its analogues in the treatment of pulmonary hypertension. *Pharmacology & Therapeutics* **102**, 139-153 (2004).
2. Raychaudhuri, B., Malur, A., Bonfield, T.L., *et al.* The prostacyclin analogue treprostinil blocks NFκB nuclear translocation in human alveolar macrophages. *J. Biol. Chem.* **277**(36), 33344-33348 (2002).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10162](http://www.caymanchem.com/catalog/10162)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 11/29/2011

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)