

# PRODUCT INFORMATION



## Treprostinil

Item No. 10162

CAS Registry No.: 81846-19-7

Formal Name: 2-[[[(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

Synonyms: BW 15AU, LRX 15, Rumodolin, U-62840, Uniprost

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

FW: 390.5

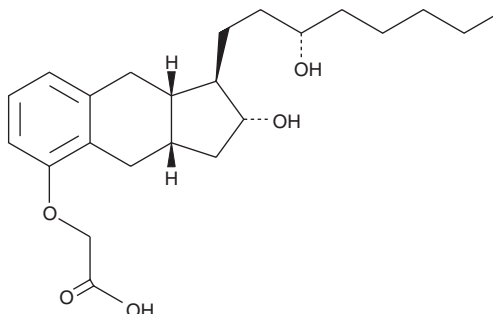
Purity: ≥98%

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

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



### Laboratory Procedures

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.

### Description

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 (Item No. 18220) 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 (TNF-α, 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. Raychauduri, 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).

#### 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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