

# PRODUCT INFORMATION

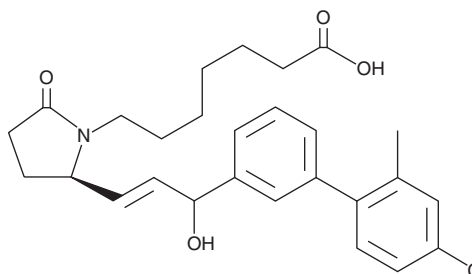


**CAY10684**

Item No. 15966

**CAS Registry No.:** 493035-81-7  
**Formal Name:** (2R)-2-[(1E)-3-(4'-chloro-2'-methyl[1,1'-biphenyl]-3-yl)-3-hydroxy-1-propen-1-yl]-5-oxo-1-pyrrolidineheptanoic acid

**MF:** C<sub>27</sub>H<sub>32</sub>ClNO<sub>4</sub>  
**FW:** 470.0  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol  
**UV/Vis.:** λ<sub>max</sub>: 241 nm



## Laboratory Procedures

For long term storage, we suggest that CAY10684 be stored as supplied at -20°C. It should be stable for at least one year.

CAY10684 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of CAY10684 in these solvents is approximately 50, 17, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of CAY10684 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of CAY10684 in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

## Description

Prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) activates four E prostanoid (EP) receptors, EP<sub>1-4</sub>. EP<sub>4</sub> is a G protein-coupled receptor that, by elevating the second messenger cAMP, plays important roles in bone formation and resorption, cancer, and atherosclerosis.<sup>1-3</sup> CAY10684 is a lactam that acts as a potent EP<sub>4</sub> agonist, triggering cAMP signaling with an EC<sub>50</sub> value of 0.8 nM.<sup>4</sup> It displays more than 1,000-fold selectivity for EP<sub>4</sub> over other EP receptors.<sup>4</sup>

## References

1. Li, M., Thompson, D.D., and Paralkar, V.M. Prostaglandin E<sub>2</sub> receptors in bone formation. *Int. Orthop.* **31**, 767-772 (2007).
2. Hawcroft, G., Ko, C.W.S., and Hull, M.A. Prostaglandin E<sub>2</sub>-EP<sub>4</sub> receptor signalling promotes tumorigenic behaviour of HT-29 human colorectal cancer cells. *Oncogene* **26**, 3006-3019 (2007).
3. Babaev, V.R., Chew, J.D., Ding, L., et al. Macrophage EP<sub>4</sub> deficiency increases apoptosis and suppresses early atherosclerosis. *Cell Metab.* **8**, 492-501 (2008).
4. Elworthy, T.R., Kertesz, D.J., Kim, W., et al. Lactams as EP<sub>4</sub> prostanoid receptor subtype selective agonists. Part 1: 2-Pyrrolidinones-stereochemical and lower side-chain optimization. *Bioorg. Med. Chem. Lett.* **14**, 1655-1659 (2004).

### 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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