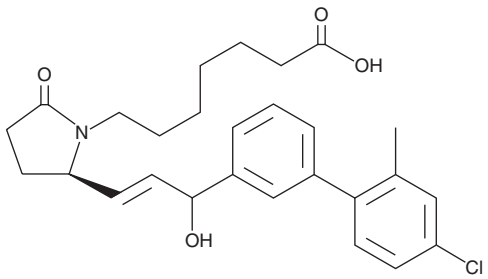
PRODUCT INFORMATION

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:	$C_{27}H_{32}ClNO_4$
FW:	470.0
Purity:	≥98%
Stability:	≥1 year at -20°C
Supplied as:	A solution in ethanol
UV/Vis.:	λ_{max}: 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_2 (PGE_2; Item No. 14010) activates four E prostanoid (EP) receptors, $EP_{1\text{-}4}$. EP_4 is a G protein-coupled receptor that, by elevating the second messenger cAMP, plays important roles in bone formation and resorption, cancer, and atherosclerosis.[1-3] CAY10684 is a lactam that acts as a potent EP_4 agonist, triggering cAMP signaling with an EC_{50} value of 0.8 nM.[4] It displays more than 1,000-fold selectivity for EP_4 over other EP receptors.[4]

References

1. Li, M., Thompson, D.D., and Paralkar, V.M. Prostaglandin E_2 receptors in bone formation. *Int. Orthop.* **31**, 767-772 (2007).
2. Hawcroft, G., Ko, C.W.S., and Hull, M.A. Prostaglandin E_2-EP_4 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_4 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_4 prostanoid receptor subtype selective agonists. Part 1: 2-Pyrrolidinones-sterochemical and lower side-chain optimization. *Bioorg. Med. Chem. Lett.* **14**, 1655-1659 (2004).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM