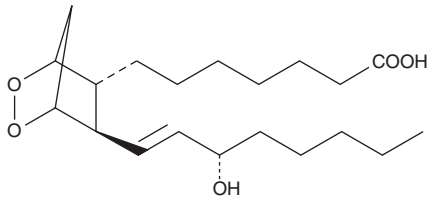
# PRODUCT INFORMATION

## Prostaglandin $H_1$

*Item No. 17015*

**CAS Registry No.:** 52589-22-7
**Formal Name:** 9α,11α-epidioxy-15S-hydroxy-prost-13E-en-1-oic acid
**Synonyms:** $PGH_1$, $PGR_1$, Prostaglandin $R_1$
**MF:** $C_{20}H_{34}O_5$
**FW:** 354.5
**Purity:** ≥95%
**Supplied as:** A 100 µg/ml solution in acetone
**Storage:** -80°C
**Stability:** ≥2 years




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

### Laboratory Procedures

Prostaglandin $H_1$ ($PGH_1$) is supplied as a solution in acetone. To change the solvent, simply evaporate the acetone under a gentle stream of nitrogen and immediately add the solvent of choice. The solvent ethanol purged with an inert gas can be used. The solubility of $PGH_1$ in ethanol is approximately 100 mg/ml.

$PGH_1$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the acetonic solution of $PGH_1$ should be diluted with the aqueous buffer of choice. The solubility of $PGH_1$ in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

$PGH_1$ is the unstable precursor to all 1-series PGs and thromboxanes.[1-3] It is produced from dihomo-γ-linolenic acid (DGLA; Item No. 90230) by COX-1 and COX-2. [2,4] $PGH_1$ is an agonist of the $PGD_2$ receptor $CRTH_2$.[5] It increases intracellular calcium levels in HEK293 cells expressing $CRTH_2$ when used at a concentration of 3 µM and induces $CRTH_2$ internalization at 1 µM, an effect that can be blocked by the $CRTH_2$ antagonist TM30089 (CAY10471; Item No. 10006735). $PGH_1$ is also a suicide inhibitor of platelet thromboxane synthase ($K_i$ = 28 µM).[6]

### References


1. Nugteren, D.H. and Hazelhof, E. Isolation and properties of intermediates in prostaglandin biosynthesis. *Biochim. Biophys. Acta* **326(3)**, 448-461 (1973).
2. Flower, R.J. Prostaglandins and related compounds. *Inflammation.* Vane, J.R. and Ferreira, S.H., editors, *Springer-Verlag* (1978).
3. Serhan, C.N. and Oliw, E. Unorthodox routes to prostanoid formation: New twists in cyclooxygenase-initiated pathways. *J. Clin. Invest.* **107(12)**, 1481-1489 (2001).
4. Miyamoto, T., Yamamoto, S., and Hayaishi, O. Prostaglandin synthetase system – Resolution into oxygenase and isomerase components. *Proc. Natl. Acad. Sci. USA* **71(9)**, 3645-3648 (1974).
5. Schröder, R., Xue, L., Konya, V., *et al.* PGH1, the precursor for the anti-inflammatory prostaglandins of the 1-series, is a potent activator of the pro-inflammatory receptor CRTH2/DP2. *PLoS One* **7(3)**, e33329 (2012).
6. Jones, D.A. and Fitzpatrick, F.A. "Suicide" inactivation of thromboxane $A_2$ synthase. Characteristics of mechanism-based inactivation with isolated enzyme and intact platelets. *J. Biol. Chem.* **265(33)**, 20166-20171 (1990).



**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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