

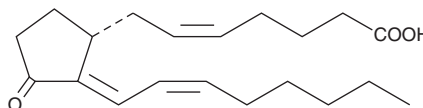
# Product Information



## CAY10410

Item No. 18590

**CAS Registry No.:** 596104-94-8  
**Formal Name:** 11-oxo-prosta-5Z,12E,14Z-trien-1-oic acid  
**Synonym:** 9,10-dihydro-15-deoxy- $\Delta^{12,14}$ -Prostaglandin J<sub>2</sub>  
**MF:** C<sub>20</sub>H<sub>30</sub>O<sub>3</sub>  
**FW:** 318.5  
**Purity:** ≥98% (isomer mixture)  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate  
**UV/Vis.:** λ<sub>max</sub>: 293 nm



### Laboratory Procedures

For long term storage, we suggest that CAY10410 be stored as supplied at -20°C. It should be stable for at least one year.

CAY10410 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate 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 CAY10410 in these solvents is approximately 75, 20, and 100 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 CAY10410 is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of CAY10410 in PBS (pH 7.2) is approximately 2.7 mg/ml. We do not recommend storing the aqueous solution for more than one day.

CAY10410 is an analog of prostaglandin D<sub>2</sub>/prostaglandin J<sub>2</sub> (PGD<sub>2</sub>/PGJ<sub>2</sub>) with structural modifications intended to give it PPAR $\gamma$  ligand activity and resistance to metabolism. 15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub> has been shown to be a potent ligand for PPAR $\gamma$ .<sup>1</sup> Metabolism of the cyclopentenone prostaglandins PGA<sub>2</sub>, PGJ<sub>2</sub>, and  $\Delta^{12}$ -PGJ<sub>2</sub> occurs *via* glutathione addition across the  $\alpha,\beta$  unsaturated enone.<sup>2</sup> CAY10410 was designed as an analog of the PPAR $\gamma$ -binding prostaglandins which could not undergo this conjugation reaction. In human neuroblastoma SH-SY5Y cells, CAY10410 was not cytotoxic at up to 25  $\mu$ M. It also failed to covalently modify thioredoxin or induce oxidative stress at 50  $\mu$ M.<sup>3</sup>

### References

1. Forman, B.M., Tontonoz, P., Chen, J. *et al.* 15-deoxy- $\Delta^{12,14}$ -prostaglandin J<sub>2</sub> is a ligand for the adipocyte determination factor PPAR $\gamma$ . *Cell* **83**, 803-812 (1995).
2. Atsmon, J., Sweetman, B.J., Baertschi, S.W. *et al.* Formation of thiol conjugates of 9-deoxy- $\Delta^9,\Delta^{12}$ (E)-prostaglandin D<sub>2</sub> and  $\Delta^{12}$ (E)-prostaglandin D<sub>2</sub>. *Biochemistry* **29**, 3760-3765 (1990).
3. Shibata, T., Yamada, T., Ishii, T., *et al.* Thioredoxin as a molecular target of cyclopentenone prostaglandins. *J. Biol. Chem.* **278**(28), 26046-26054 (2003).

### Related Products

Prostaglandin D<sub>2</sub> - Item No. 12010 • 15-deoxy- $\Delta^{12,14}$ -Prostaglandin J<sub>2</sub> - Item No. 18570

**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.

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