

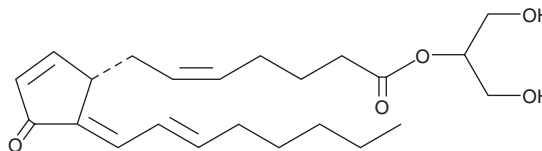
# PRODUCT INFORMATION



## 15-deoxy- $\Delta^{12,14}$ -Prostaglandin J<sub>2</sub>-2-glycerol ester

Item No. 10010132

<b>Formal Name:</b>	11-oxo-prosta-5Z,9,12E,14E-tetraen-1-oic acid, 2-glycerol ester
<b>Synonym:</b>	15-deoxy- $\Delta^{12,14}$ -PGJ <sub>2</sub> -2-glycerol ester
<b>MF:</b>	C <sub>23</sub> H <sub>34</sub> O <sub>5</sub>
<b>FW:</b>	390.5
<b>Purity:</b>	≥98%
<b>UV/Vis.:</b>	$\lambda_{\max}$ : 229, 306 nm
<b>Supplied as:</b>	A solution in ethanol
<b>Storage:</b>	-80°C
<b>Stability:</b>	≥2 years



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

### Laboratory Procedures

15-deoxy- $\Delta^{12,14}$ -Prostaglandin J<sub>2</sub>-2-glycerol ester (15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester) 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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester in these solvents is approximately 30 and 25 mg/ml, respectively.

15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester should be diluted with the aqueous buffer of choice. The solubility of 15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester in PBS (pH 7.2) is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester is formed from PGD<sub>2</sub> by the elimination of two molecules of water. It binds selectively to PPAR $\gamma$  with an EC<sub>50</sub> value of 2  $\mu$ M in a murine chimera system.<sup>1,2</sup> 15-deoxy- $\Delta^{12,14}$ -PGJ<sub>2</sub>-2-glycerol ester is more potent than PGD<sub>2</sub>,  $\Delta^{12}$ -PGJ<sub>2</sub>, and PGJ<sub>2</sub> in stimulating lipogenesis in C3H10T1/2 cells. The EC<sub>50</sub> value for induction of adipocyte differentiation in cultured fibroblasts is 7  $\mu$ M.<sup>1</sup> PG glycerol esters are generated by the action of cyclooxygenase-2 on the endocannabinoid 2-arachidonyl glycerol.<sup>3</sup> The biosynthesis of PGH, PGD, PGE, PGF, and TXA-2-glycerol ester compounds have all been documented. While the stability and metabolism of these PG products has been investigated, little is known about their intrinsic biological activity.<sup>4</sup>

### References

1. Kliewer, S.A., Lenhard, J.M., Willson, T.M., *et al.* A prostaglandin J<sub>2</sub> metabolite binds peroxisome proliferator-activated receptor  $\gamma$  and promotes adipocyte differentiation. *Cell* **83**(5), 813-819 (1995).
2. 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**(5), 803-812 (1995).
3. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al.* Metabolism of the endocannabinoids, 2-arachidonylglycerol and anandamide, into prostaglandin, thromboxane, and prostacyclin glycerol esters and ethanolamides. *J. Biol. Chem.* **277**(47), 44877-44885 (2002).
4. Kozak, K.R., Crews, B.C., Ray, J.L., *et al.* Metabolism of prostaglandin glycerol esters and prostaglandin ethanolamides *in vitro* and *in vivo*. *J. Biol. Chem.* **276**(40), 36993-36998 (2001).

#### 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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