

# PRODUCT INFORMATION



## Prostaglandin A<sub>2</sub>-biotin

Item No. 10010499

**Formal Name:** 9-oxo-15S-hydroxy-prosta-5Z,10,13E-trien-1-oyl-N'-biotinoyl-1,5-diaminopentane

**Synonym:** PGA<sub>2</sub>-biotin

**MF:** C<sub>35</sub>H<sub>56</sub>N<sub>4</sub>O<sub>5</sub>S

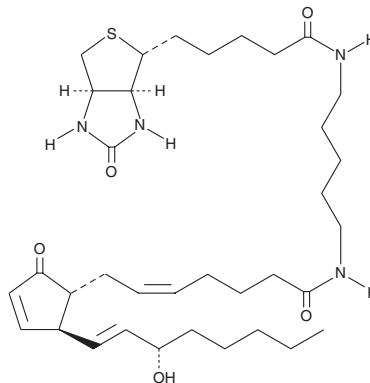
**FW:** 644.9

**Purity:** ≥95%

**Supplied as:** A solution in ethanol

**Storage:** -20°C

**Stability:** ≥2 years



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

### Laboratory Procedures

Prostaglandin A<sub>2</sub>-biotin (PGA<sub>2</sub>-biotin) 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. The solvent DMSO purged with an inert gas can be used. The solubility of PGA<sub>2</sub>-biotin in DMSO is approximately 10 mg/ml.

### Description

PGA<sub>2</sub> blocks cell cycle progression of NIH 3T3 cells at the G<sub>1</sub> and G<sub>2</sub>/M phase.<sup>1</sup> It has antitumor effects, targeting scaffold/matrix attachment region-binding protein 1 (SMAR1) through an Hsp70-dependent mechanism.<sup>2-4</sup> PGA<sub>2</sub> also induces apoptosis in HL-60 cells.<sup>5</sup> PGA<sub>2</sub>-biotin is an affinity probe which allows PGA<sub>2</sub> to be detected through an interaction with the biotin ligand. Biotinylated eicosanoids have been used to capture proteins which interact with the lipid.<sup>6</sup>

### References

1. Hitomi, M., Shu, J., Strom, D., *et al.* Prostaglandin A<sub>2</sub> blocks the activation of G<sub>1</sub> phase cyclin-dependent kinase without altering mitogen-activated protein kinase stimulation. *J. Biol. Chem.* **271**, 9376-9383 (1996).
2. Fukushima, M., Kato, T., Narumiya, S., *et al.* Prostaglandin A and J: Antitumor and antiviral prostaglandins. *Adv. Prostaglandin Thromboxane Leukot. Res.* **19**, 415-418 (1989).
3. Pavithra, L., Rampalli, S., Sinha, S., *et al.* Stabilization of SMAR1 mRNA by PGA<sub>2</sub> involves a stem-loop structure in the 5' UTR. *Nucleic Acids Res.* **35(18)**, 6004-6016 (2007).
4. Pavithra, L., Sreenath, K., Singh, S., *et al.* Heat-shock protein 70 binds to a novel sequence in 5' UTR of tumor suppressor SMAR1 and regulates its mRNA stability upon Prostaglandin A<sub>2</sub> treatment. *FEBS Lett.* **584**, 1187-1192 (2010).
5. Lee, S.-Y., Ahn, J.-H., Ko, K.W., *et al.* Prostaglandin A<sub>2</sub> activates intrinsic apoptotic pathway by direct interaction with mitochondria in HL-60 cells. *Prostaglandins Other Lipid Mediat.* **91**, 30-37 (2010).
6. Kang, L.-T. and Vanderhoek, J.Y. Synthesis and use of a novel biotinylated probe for the chemiluminescent detection of proteins that bind 15-hydroxyeicosatetraenoic acid. *Anal. Biochem.* **250**, 119-122 (1997).

#### 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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