

# PRODUCT INFORMATION



## Prostaglandin D<sub>2</sub> MaxSpec<sup>®</sup> Standard Item No. 10007202

CAS Registry No.: 41598-07-6

Formal Name: 9 $\alpha$ ,15S-dihydroxy-11-oxo-prosta-5Z,13E-dien-1-oic acid

Synonym: PGD<sub>2</sub>

MF: C<sub>20</sub>H<sub>32</sub>O<sub>5</sub>

FW: 352.5

Purity:  $\geq$ 95%

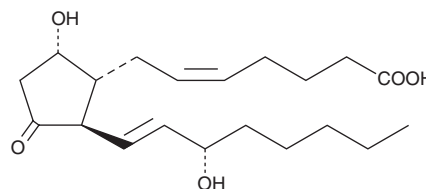
Supplied as: A solution in ethanol; in a deactivated glass ampule

Concentration: 100  $\mu$ g/ml (nominal); see certificate of analysis for verified concentration

Storage: -20°C

Stability:  $\geq$ 5 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*

Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



### Description

Prostaglandin D<sub>2</sub> (PGD<sub>2</sub>) is the major eicosanoid product of mast cells and is released in large quantities during allergic and asthmatic anaphylaxis.<sup>1</sup> Mastocytosis patients produce excessive amounts of PGD<sub>2</sub>, which causes vasodilation, flushing, hypotension, and syncopal episodes.<sup>1</sup> PGD<sub>2</sub> is also produced in the brain *via* an alternative pathway involving a soluble, secreted PGD-synthase also known as  $\beta$ -trace.<sup>2,3</sup> In the brain, PGD<sub>2</sub> produces normal physiological sleep and lowering of body temperature.<sup>2,3</sup> Further pharmacological actions include inhibition of platelet aggregation and relaxation of vascular smooth muscle.<sup>4</sup> PGD<sub>2</sub> inhibits human ovarian tumor cell proliferation with an IC<sub>50</sub> value of 6.8  $\mu$ M.<sup>5</sup>

PGD<sub>2</sub> MaxSpec<sup>®</sup> standard is a quantitative grade standard of PGD<sub>2</sub> (Item No. 12010) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. This PGD<sub>2</sub> MaxSpec<sup>®</sup> standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product.

**Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

### References

1. Roberts, L.J., II and Sweetman, B.J. *Prostaglandins* **30(3)**, 383-400 (1985).
2. Hayaishi, O. *J. Biol. Chem.* **263(29)**, 14593-14596 (1988).
3. Onoe, H., Ueno, R., Fujita, I., et al. *Proc. Natl. Acad. Sci. U.S.A.* **85(11)**, 4082-4086 (1988).
4. Giles, H. and Leff, P. *Prostaglandins* **35(2)**, 277-300 (1988).
5. Kikuchi, Y., Kita, T., Hirata, J., et al. *Cancer Metastasis Rev.* **13(3-4)**, 309-315 (1994).

#### 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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