

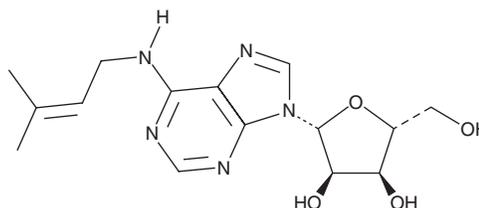
# PRODUCT INFORMATION



## N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine

Item No. 20522

**CAS Registry No.:** 7724-76-7  
**Formal Name:** N-(3-methyl-2-buten-1-yl)-adenosine  
**Synonyms:** 2-iPA, Isopentenyladenosine, N<sup>6</sup>-Isopentenyladenine riboside, N<sup>6</sup>-Isopentenyladenosine, N<sup>6</sup>-(2-Isopentenyl)adenosine, NSC 105546, Riboprine, SQ 22,558  
**MF:** C<sub>15</sub>H<sub>21</sub>N<sub>5</sub>O<sub>4</sub>  
**FW:** 335.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 211, 268 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine is supplied as a crystalline solid. A stock solution may be made by dissolving the N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenosine in the solvent of choice, which should be purged with an inert gas. N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenosine in these solvents is approximately 1, 5, and 10 mg/ml, respectively.

N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenosine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine is a precursor in the biosynthesis of the plant hormone N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenine (Item No. 17906).<sup>1</sup> N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenine may be converted to the cytokinin *trans*-zeatin (Item No. 13226) by cytochrome P450 mono-oxygenases.<sup>1</sup> Cytokinins, including N<sup>6</sup>-(Δ<sup>2</sup>-isopentenyl)adenine and *trans*-zeatin, regulate diverse events in plant growth and development. N<sup>6</sup>-(Δ<sup>2</sup>-Isopentenyl)adenosine can also alter post-transcriptional processes in mammalian cells, altering proliferation and apoptosis.<sup>2,3</sup>

### References

1. Hirose, N., Takei, K., Kuroha, T., *et al.* Regulation of cytokinin biosynthesis, compartmentalization and translocation. *J. Exp. Bot.* **59(1)**, 75-83 (2008).
2. Bifulco, M., Malfitano, A.M., Proto, M.C., *et al.* Biological and pharmacological roles of N<sup>6</sup>-isopentenyladenosine: An emerging anticancer drug. *Anticancer Agents Med. Chem.* **8(2)**, 200-2004 (2008).
3. Casati, S., Ottria, R., Baldoli, E., *et al.* Effects of cytokinins, cytokinin ribosides and their analogs on the viability of normal and neoplastic human cells. *Anticancer Res.* **31(10)**, 3401-3406 (2011).

#### 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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