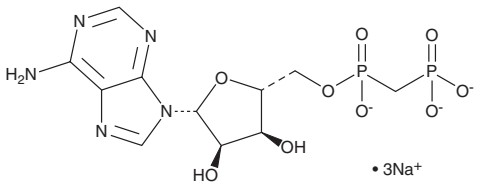
# PRODUCT INFORMATION

## Adenosine 5'-methylenediphosphate (sodium salt)

*Item No. 38359*

**CAS Registry No.:** 2659222-76-9
**Formal Name:** adenosine, 5′-[hydrogen P-(phosphonomethyl)phosphonate], trisodium salt
**Synonyms:** Adenosine 5'-(α,β-methylene)diphosphate, AMP-CP, APCP, 5'-APCP
**MF:** $C_{11}H_{14}N_5O_9P_2 \bullet 3Na$
**FW:** 491.2
**Purity:** ≥98%
**Supplied as:** A solution in water
**Storage:** -80°C
**Stability:** ≥4 years




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

## Description

Adenosine 5'-methylenediphosphate is an inhibitor of ecto-5'-nucleotidase, also known as CD73, with a $K_i$ value of 37 nM.[1] It inhibits cAMP accumulation induced by adenosine 5'-monophosphate (AMP; Item No. 21094), adenosine 5'-diphosphate (ADP; Item Nos. 16778 | 21121), or adenosine 5'-triphosphate (ATP; Item No. 14498), but not adenosine (Item No. 21232), in VA-13 human fibroblasts when used at a concentration of 100 µM. Adenosine 5'-methylenediphosphate reduces proliferation of U-138 MG glioma cells, as well as inhibits the invasion and migration of MHCC97H hepatocellular carcinoma (HCC) cells in a migration assay.[2,3] It increases tumor infiltration of $CD3^+CD8^+$ T cells and reduces tumor growth in a K1735 murine melanoma model when administered at a dose of 400 µg/mouse.[4]

## References


1. Bruns, R.F. Adenosine receptor activation by adenine nucleotides requires conversion of the nucleotides to adenosine. *Naunyn Schmiedebergs Arch. Pharmacol.* **315(1)**, 5-13 (1980).
2. Braganhol, E., Tamajusuku, A.S.K., Bernardi, A., *et al.* Ecto-5′-nucleotidase/CD73 inhibition by quercetin in the human U138MG glioma cell line. *Biochim. Biophys. Acta* **1770(9)**, 1352-1359 (2007).
3. Shali, S., Yu, J., Zhang, X., *et al.* Ecto-5′-nucleotidase (CD73) is a potential target of hepatocellular carcinoma. *J. Cell Physiol.* **234(7)**, 10248-10259 (2018).
4. Forte, G., Sorrentino, R., Montinaro, A., *et al.* Inhibition of CD73 improves B cell-mediated anti-tumor immunity in a mouse model of melanoma. *J. Immunol.* **189(5)**, 2226-2233 (2021).





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