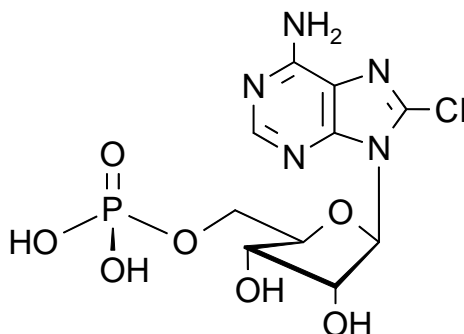


## Technical Information about 8-Chloroadenosine-5'-O-monophosphate (8-Cl-5'-AMP)

Update: August 18, 2011 AI



**Abbreviation:** 8-Cl-5'-AMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>10</sub> H <sub>13</sub> ClN <sub>5</sub> O <sub>7</sub> P (free acid)	[37676-40-7]	381.7 (free acid)	λ <sub>max</sub> 262 nm / ε 17000 / pH 7	C 016

**Name:** 8- Chloroadenosine- 5'- O- monophosphate

**Description:** 8-Cl-5'-AMP is an analogue of adenosine-5'-O-monophosphate (5'-AMP) in which the hydrogen in position 8 of the adenine nucleobase has been replaced by chlorine.

**Properties:** 8-Cl-5'-AMP is a potential metabolite of the PKA activator 8-Chloroadenosine-3',5'-cyclic monophosphate (8-Cl-cAMP, BIOLOG Cat. No. C 007), released by action of phosphodiesterases.

**Specification:** Crystallized or lyophilized sodium salt. Other salts of 8-Cl-5'-AMP are available upon request. Please keep in mind that equal concentrations of 8-Cl-5'-AMP may look different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube.. Micro molar quantities are determined by UV at λ<sub>max</sub>.

**Purity:** Typical analysis is better than 97% (HPLC / UV / 262 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** 8-Cl-5'-AMP has excellent solubility in water or buffer systems. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** 8-Cl-5'-AMP has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

**Toxicity and Safety:** Since AMP has multiple tasks in every organism, it is not unlikely that lipophilic analogs will interfere with many cell regulation processes in vivo. However, due to the rather small quantities to work with, no health hazards have been reported. Nevertheless please keep in mind, that the in vivo properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.

Our products are designed, developed and sold for research purposes only! They are intended for in vitro and nonhuman in vivo laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

### Selected References for 8-Cl-5'-AMP:

Dennison, J.B.; Ayres, M.L.; Kaluarachchi, K.; Plunkett, W.; Gandhi, V., *J. Biol. Chem.*, **285**, 8022 - 8030 (2010): "Intracellular Succinylation of 8-Chloroadenosine and its Effect on Fumarate Levels"

Gandhi, V.; Chen, W.; Ayres, M.; Rhie, J. K.; Madden, T. L.; Newman, R. A., *Cancer Chemother. Pharmacol.*, **50**, 85 - 94 (2003): "Plasma and Cellular Pharmacology of 8-Chloro-Adenosine in Mice and Rats"

Gandhi, V.; Ayres, M.; Halgren, R. G.; Krett, N. L.; Newman, R. A.; Rosen, S. T., *Cancer Res.*, **61**, 5474 - 5479 (2001): "8-Chloro-cAMP and 8-Chloro-Adenosine Act by the Same Mechanism in Multiple Myeloma Cells"

Kozłowska, M.; Smolenski, R. T.; Makarewicz, W.; Hoffmann, C.; Jastorff, B.; Swierczynski, J., *Toxicol. Lett.*, **104**, 171 - 181 (1999): "ATP Depletion, Purine Riboside Triphosphate Accumulation and Rat Thymocyte Death Induced by Purine Riboside"

Halgren, R.G.; Traynor, A.E.; Pillay, S.; Zell, J.L.; Heller, K.F.; Krett, N.L.; Rosen, S.T., *Blood*, **92**, 2893 - 2898 (1998): "8-Cl-cAMP Cytotoxicity in both Steroid Sensitive and Insensitive Multiple Myeloma Cell Lines is Mediated by 8-Cl-Adenosine"

Han, Z. Y.; Chatterjee, D.; Early, J.; Pantazis, P.; Hendrickson, E. A.; Wyche, J. H., *Cancer Res.*, **56**, 1621 - 1628 (1996): "Isolation and Characterization of an Apoptosis-Resistant Variant of Human Leukemia HL-60 Cells that has Switched Expression from Bcl-2 to Bcl-X(L)"

Vintermyr, O. K.; Bøe, R.; Brustugun, O. T.; Maronde, E.; Aakvaag, A.; Døskeland, S. O., *Endocrinology*, **136**, 2513 - 2520 (1995): "Cyclic Adenosine Monophosphate (cAMP) Analogs 8-Cl- and 8-NH(2)-cAMP Induce Cell Death Independently of cAMP Kinase-Mediated Inhibition of the G(1)/S Transition in Mammary Carcinoma Cells (MCF-7)"

Han, Z.; Chatterjee, D.; Wyche, J.H., *J. Pharmacol. Exper. Ther.*, **265**, 790 - 794 (1992): "Proliferation of Nontransformed Cells is Inhibited by Adenosine Metabolite But Not by Parental 8-Cl-Cyclic AMP "