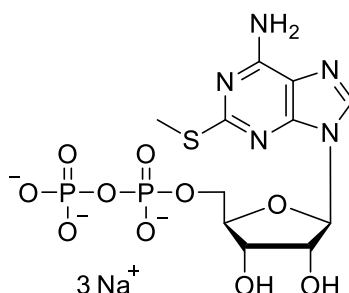


## Technical Information about 2-Methylthio-ADP

Update: May 03, 2021 HU



**Abbreviation:** **2-MeS-ADP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>11</sub> H <sub>17</sub> N <sub>5</sub> O <sub>10</sub> P <sub>2</sub> S (free acid)	[34983-48-7]	473.3 (free acid)	λ <sub>max</sub> 277 nm / ε 14700 / pH 11	M 020

**Name:** 2- Methylthioadenosine- 5'- O- diphosphate, sodium salt

**Description:** 2-MeS-ADP is an analogue of adenosine diphosphate (ADP) in which the hydrogen in position 2 of the adenine nucleobase has been replaced by a methylthio group.

**Properties:** 2-MeS-ADP is a potent purinergic agonist of P2Y<sub>1</sub>, P2Y<sub>12</sub> and P2Y<sub>13</sub> receptors.

**Specification:** Aqueous solution of the sodium salt (10 mM). Other salt forms of 2-MeS-ADP are available upon request. Micromolar quantities are determined by UV at λ<sub>max</sub>. When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.

**Purity:** Typical purity is better than 95% (HPLC / UV / 277 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

**Stability and Storage:** 2-MeS-ADP is relatively stable when stored frozen in aqueous solution (- 20° Celsius necessary, - 80° recommended). In order to maintain its original high quality, it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the content of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots, be sure to operate quickly and to freeze the vials again as soon as possible. Please ask for an offer to already pack these aliquots as you will need them.

**Toxicity and Safety:** Since adenosine diphosphate has important tasks in every organism, it is very likely that ADP analogues 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 2-MeS-ADP:

Moseng, M.A.; Nix, J.C.; Page, R.C., *FEBS Lett.*, **15**, 2030 - 2039 (2019): "2- and N6-functionalized Adenosine-5'-diphosphate Analogs for the Inhibition of Mortalin"

Herfindal, L.; Nygaard, G.; Kopperud, R.; Krakstad, C.; Doeskeland, S.O.; Selheim, F., *Biochem. Biophys. Res. Commun.*, **437**, 603 - 608 (2013): "Off-target Effect of the Epac Agonist 8-pCPT-2'-O-Me-cAMP on P2Y<sub>12</sub> Receptors in Blood Platelets"

Jacques-Silva, M.C.; Rodnight, R.; Lenz, G.; Liao, Z.; Kong, Q.; Tran, M.; Kang, Y.; Gonzalez, F.A.; Weisman, G.A.; Neary, J.T., *Br. J. Pharmacol.*, **141**, 1106 - 1117 (2004): "P2X<sub>7</sub> Receptors Stimulate AKT Phosphorylation in Astrocytes"

Claes, P.; Van Kolen, K.; Roymans, D.; Blero, D.; Vissenberg, K.; Erneux, C.; Verbelen, J.P.; Esmans, E.L.; Slegers, H., *Biochem. Pharmacol.*, **67**, 1489 - 1498 (2004): "Reactive Blue 2 Inhibition of Cyclic AMP-dependent Differentiation of Rat C6 Glioma Cells by Purinergic Receptor-independent Inactivation of Phosphatidylinositol 3-Kinase"

Cusack, N.J.; Hourani, S.M., *Br. J. Pharmacol.*, **77**, 329 - 333 (1982): "Competitive Inhibition by Adenosine 5'-triphosphate of the Actions on Human Platelets of 2-Chloroadenosine-5'-diphosphate, 2-Azoadenosine 5'-diphosphate and 2-Methylthioadenosine 5'-diphosphate"

Satchell, D.G.; Maguire, M.H., *J. Pharmacol. Exper. Therap.*, **195**, 540 - 548 (1975): "Inhibitory Effects of Adenine Nucleotide Analogs of the Isolated Guinea-pig *Taenia coli*"