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Technical Information about 6-Bn-ADP

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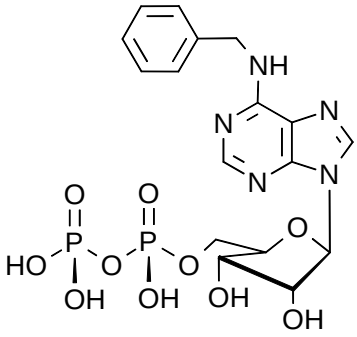

Abbreviation: **6-Bn-ADP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{17}H_{21}N_5O_{10}P_2$ for free acid	[40811-89-0]	517.3 for free acid	λ_{max} 269 nm / ε 20500 / pH 7	B 023

Name: N^6- Benzyladenosine- 5'- O- diphosphate

Description: 6-Bn-ADP is an analogue of adenosine- 5'- O- diphosphate (ADP) in which one hydrogen of the 6- amino group has been substituted by a benzyl moiety.

Properties:

- Precursor of the corresponding radio-labelled triphosphate which can be used for identification of the specific substrates of an engineered protein kinase as described by Shah et al. (1997),
- inhibitor of ATP hydrolysis by an engineered myosin-Iβ mutant (Gillespie et al. 1999).

Specification: Sodium salt in aqueous solution (10 mM). The free acid or other salt forms are available upon request. Micro molar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 95% (HPLC / UV / 269 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 6-Bn-ADP has excellent solubility in water or buffer and any concentration of interest can be achieved. 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.

Stability and Storage: 6-Bn-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/thawing cycles for the rest. When making such aliquots be sure to operate quickly and to freeze the vial again as soon as possible.

Toxicity and Safety: Since nucleoside diphosphates have multiple tasks in every organism, it is 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 6-Bn-ADP:

Blethrow, J.; Zhang, C.; Shokat, K.M.; Weiss, E.L., *Curr. Protoc. Mol. Biol.*, Chapter **18**: Unit 18.11. (2004): "Design and Use of Analog-sensitive Protein Kinases"

Provance, D.W.; Gourley, C.R.; Silan, C.M.; Cameron, L.C.; Shokat, K.M.; Goldenring, J.R.; Shah, K.; Gillespie, P.G.; Mercer, J.A., *Proc Natl Acad Sci USA*, **101**, 1868 - 1873 (2004): "Chemical-genetic Inhibition of a Sensitized Mutant Myosin Vb Demonstrates a Role in Peripheral-pericentriolar Membrane Traffic"

BIOLOG Life Science Institute, Bremen, Germany Phone: 49 (0) 421 591355 Fax: 49 (0) 421 5979713 e-mail: service@biolog.de

Liu, Y.; Kung, C.; Fishburn, J.; Ansari, A.Z.; Shokat, K.M.; Hahn, S., *Mol. Cell. Biol*., **24**, 1721 - 1735 (2004): "Two Cyclin-Dependent Kinases Promote RNA Polymerase II Trancription and Formation of the Scaffold Complex"

Gillespie, P.G.; Gillespie, S.K.H.; Mercer, J.A.; Shah, K.; Shokat, K.M., *J. Biol. Chem.*, **274**, 31373 - 31381 (1999): "Engineering of the Myosin-Iβ Nucleotide-binding Pocket to Create Selective Sensitivity to N^6-modified ADP Analogs"

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Shah, K.; Liu, Y.; Deirmengian, C.; Shokat, K.M., *Proc. Natl. Acad. Sci. USA*, **94**, 3565 - 3570 (1997): "Engineering Unnatural Nucleotide Specificity for Rous Sarcoma Virus Tyrosine Kinase to Uniquely Label its Direct Substrates"

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