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## Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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## Literature references

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Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)

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Reactome database release: 89

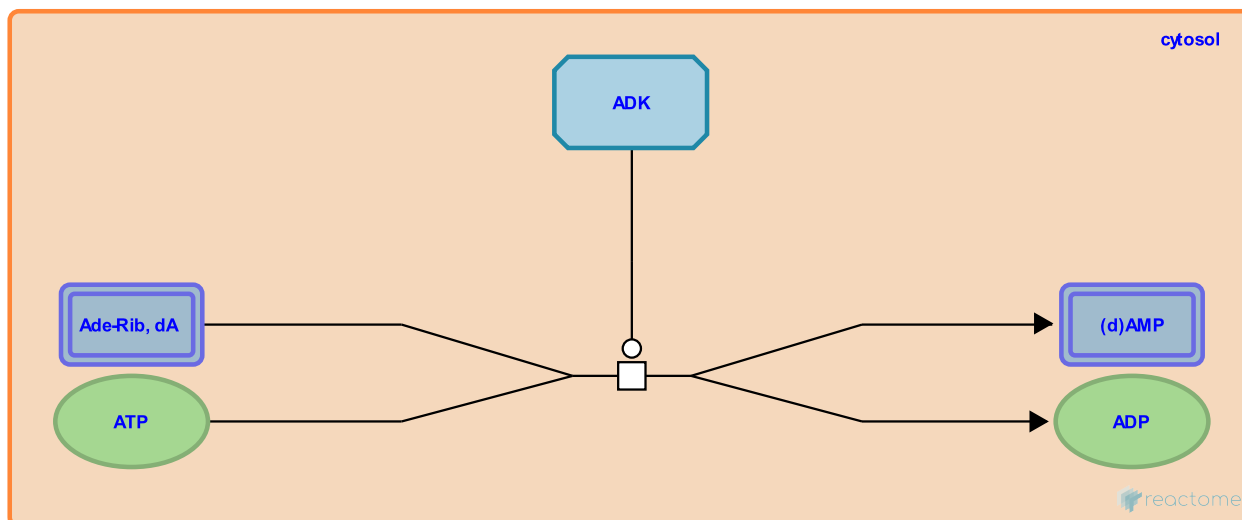
This document contains 1 reaction ([see Table of Contents](#))

**(2'-deoxy)adenosine + ATP => (d)AMP + ADP (ADK)** ↗

**Stable identifier:** R-HSA-109624

**Type:** transition

**Compartments:** cytosol



Cytosolic adenosine kinase (ADK) catalyzes the reactions of adenosine and deoxyadenosine with ATP to yield the corresponding nucleotide monophosphates and ADP (Andres and Fox 1979). The enzyme is substantially more active on adenosine than deoxyadenosine in vitro (Hurley et al. 1985) though studies of cultured cells suggest that both reactions may be physiologically relevant (Hershfield et al. 1982). The enzyme is a monomer complexed with magnesium (Mathews et al. 1998).

## Literature references

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Lin, B., Fox, IH., Hurley, MC. (1985). Regulation of deoxyadenosine and nucleoside analog phosphorylation by human placental adenosine kinase. *J Biol Chem*, 260, 15675-15681. ↗

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## Editions

2010-02-06

Revised

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