

# ALAD binds to Pb<sup>2+</sup>

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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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- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
- 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. [↗](#)
- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

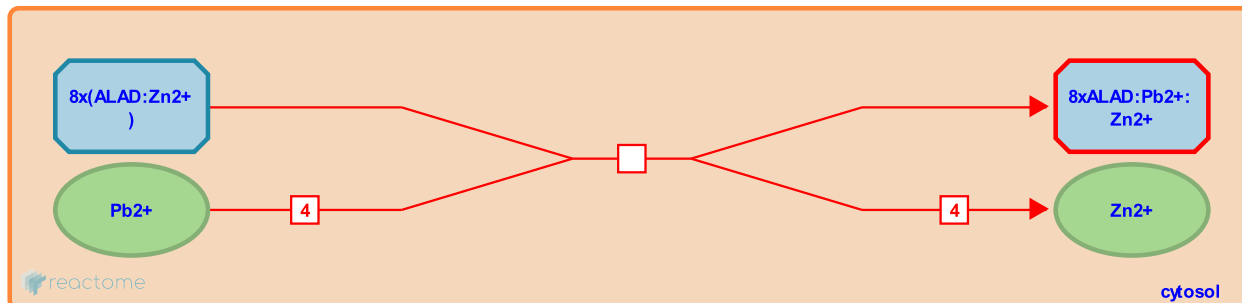
This document contains 1 reaction ([see Table of Contents](#))

## ALAD binds to Pb2+ ↗

**Stable identifier:** R-HSA-190141

**Type:** transition

**Compartments:** cytosol



Lead binds to ALAD enzyme displacing half the zinc ions essential for its catalytic activity and inactivating it. Lead is a major environmental toxin and this enzyme is one of its principal molecular targets (Jaffe et al. 2001).

### Literature references

Martins, J., Dunbrack RL, Jr., Kervinen, J., Li, J., Jaffe, EK. (2001). The molecular mechanism of lead inhibition of human porphobilinogen synthase. *J Biol Chem*, 276, 1531-7. ↗

### Editions

2007-01-24	Authored, Edited	Jassal, B., D'Eustachio, P.
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