

# BH2 binding can lead to eNOS uncoupling

D'Eustachio, P., Jassal, B.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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. [↗](#)
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Reactome database release: 75

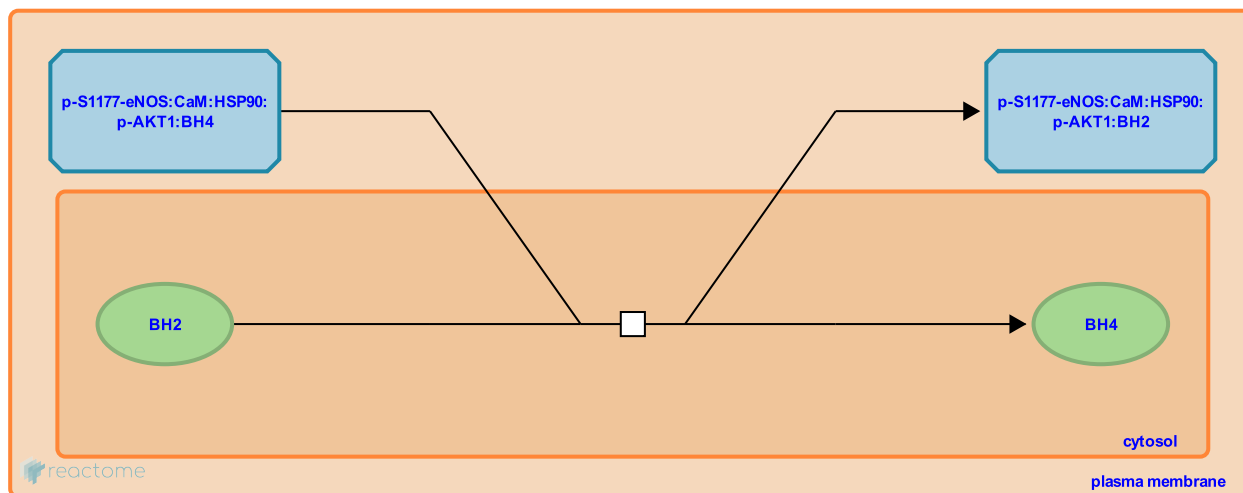
This document contains 1 reaction ([see Table of Contents](#))

## BH2 binding can lead to eNOS uncoupling ↗

**Stable identifier:** R-HSA-1497796

**Type:** transition

**Compartments:** cytosol



The oxidation product of BH<sub>4</sub>, 7,8-dihydrobiopterin (BH<sub>2</sub>), can compete with BH<sub>4</sub> for binding to eNOS. This can lead to the uncoupling of eNOS and can result in the formation of reactive oxygen species (Vasquez-Vivar et al. 2002).

### Literature references

Vásquez-Vivar, J., Martasek, P., Whitsett, J., Joseph, J., Kalyanaraman, B. (2002). The ratio between tetrahydrobiopterin and oxidized tetrahydrobiopterin analogues controls superoxide release from endothelial nitric oxide synthase: an EPR spin trapping study. *Biochem J*, 362, 733-9. ↗

### Editions

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