

BCDIN3D dimethylates 5' phosphate of pre-miR-145

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06/05/2024

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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

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Reactome database release: 88

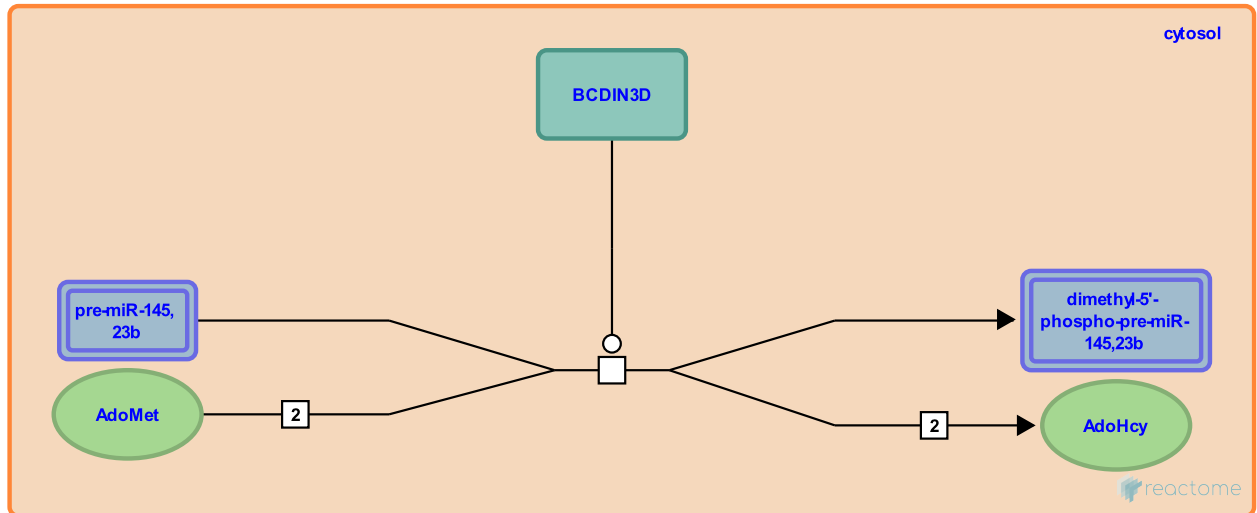
This document contains 1 reaction ([see Table of Contents](#))

BCDIN3D dimethylates 5' phosphate of pre-miR-145 [↗](#)

Stable identifier: R-HSA-5578717

Type: transition

Compartments: cytosol



BCDIN3D transfers a methyl group from S-adenosylcysteine to the each of the 2 hydroxyl groups of the 5' phosphate of pre-miR-145 and pre-miR-23b (Xhemalce et al. 2012). The methylation eliminates the negative charges on the phosphate and thereby interferes with the recognition of pre-miRNAs by Dicer, inhibiting production of mature miR-145.

Literature references

Xhemalce, B., Kouzarides, T., Robson, SC. (2012). Human RNA methyltransferase BCDIN3D regulates microRNA processing. *Cell*, 151, 278-88. [↗](#)

Editions

2014-05-30	Authored, Edited	May, B.
2017-10-23	Reviewed	Kouzarides, T.