UHRF1:Chromatin binds DNMT1

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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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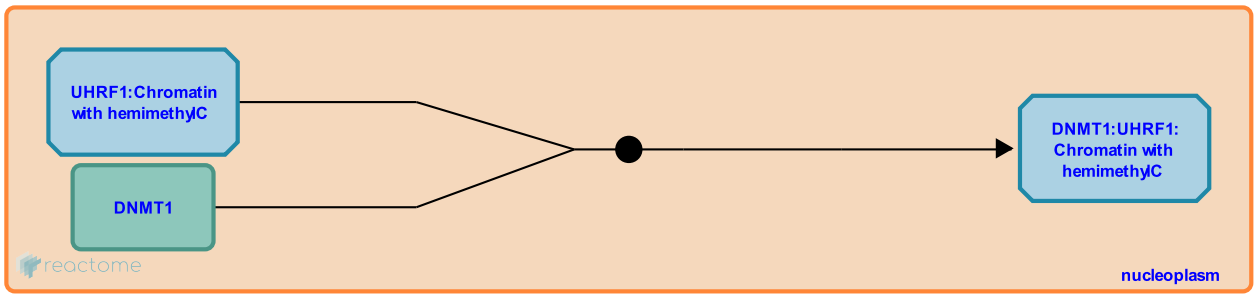
Stable identifier: R-HSA-5334160

Type: binding

Compartments: nucleoplasm

Inferred from: Uhrf1:Chromatin binds Dnmt1 (Mus musculus)



As inferred from the mouse homolog, UHRF1 associates with hemimethylated DNA and histone H3 tails methylated at lysine-9. UHRF1 recruits and tethers DNMT1 (Bostick et al. 2007). The association of UHRF1 with DNMT1 occurs preferentially during S-phase when DNA is hemimethylated as the newly replicated strand remains transiently unmethylated (Zhang et al. 2011, Hervouet et al. 2012). DNMT1 also forms complexes with transcription factors such as TP53 (p53) and YY1 at other times during the cell cycle (Hervouet et al. 2012).

Literature references

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Editions

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