

EXO1 interacting with MSH2:MSH3 excises DNA strand containing an insertion/deletion loop (IDL)

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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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Reactome database release: 88

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

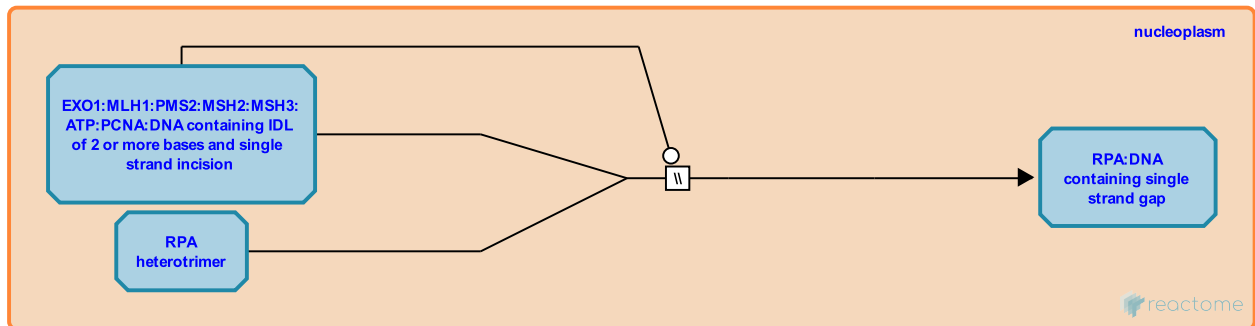
EXO1 interacting with MSH2:MSH3 excises DNA strand containing an insertion/deletion loop (IDL) ↗

Stable identifier: R-HSA-5358619

Type: omitted

Compartments: nucleoplasm

Inferred from: EXO1 interacting with MSH2:MSH6 excises single strand DNA containing a mismatch (Homo sapiens)



EXO1 exonucleolytically degrades the strand being repaired in a 5' to 3' direction (Zhang et al. 2005, Orans et al. 2011, and inferred from EXO1 activity with MSH2:MSH6) to create a single -stranded gap extending 90-170 nucleotides beyond the insertion/deletion loop (IDL) (Fang and Modrich 1993). MLH1:PMS2 limits the length of excisions by EXO1 (Zhang et al. 2005). EXO1 also forms a complex with PCNA during S phase (Liberti et al. 2011). RPA binds the resulting single-stranded DNA (Lin et al. 1998, Ramilo et al. 2002, Zhang et al. 2005, reviewed in Iftode et al. 1999).

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Editions

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