C3PO hydrolyzes cleaved passenger strand

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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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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. ↗

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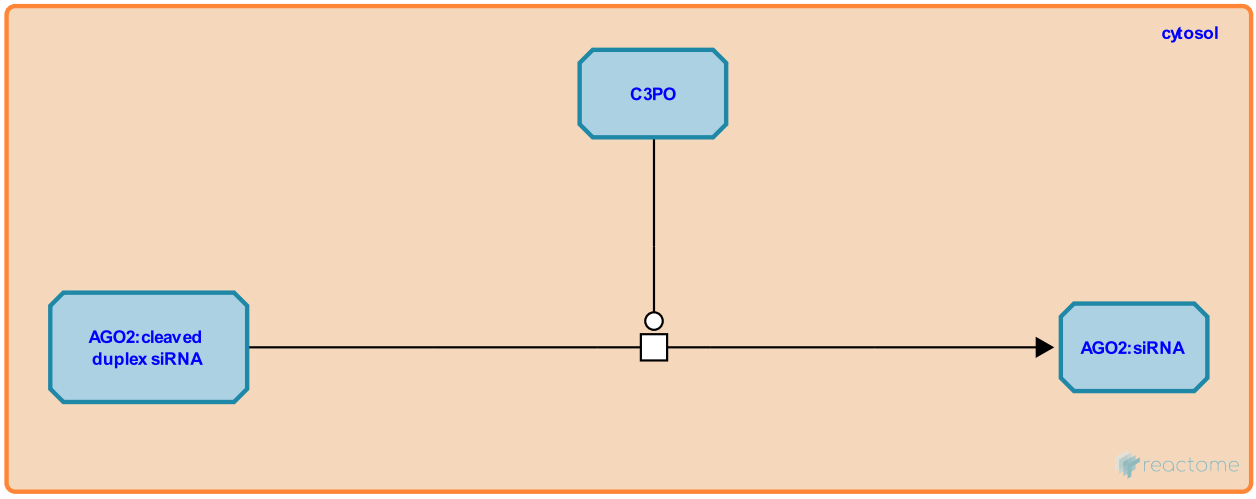
Stable identifier: R-HSA-9023909

Type: transition

Compartments: cytosol



C3PO appears to act as a nuclease that hydrolyzes the passenger strand after cleavage by AGO2. C3PO could also be part of a DICER1-independent pathway for loading AGO2. AGO2 of humans may contain either miRNAs or siRNAs.
The mechanism that selects which strand is retained as the guide RNA is not well understood in humans. Overhanging nucleotides and strength of base-pairing at each end of the input duplex are observed to influence strand selection.

Literature references

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Editions

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