

Formation of axial/lateral elements of Syn- aptonemal Complex

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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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- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

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

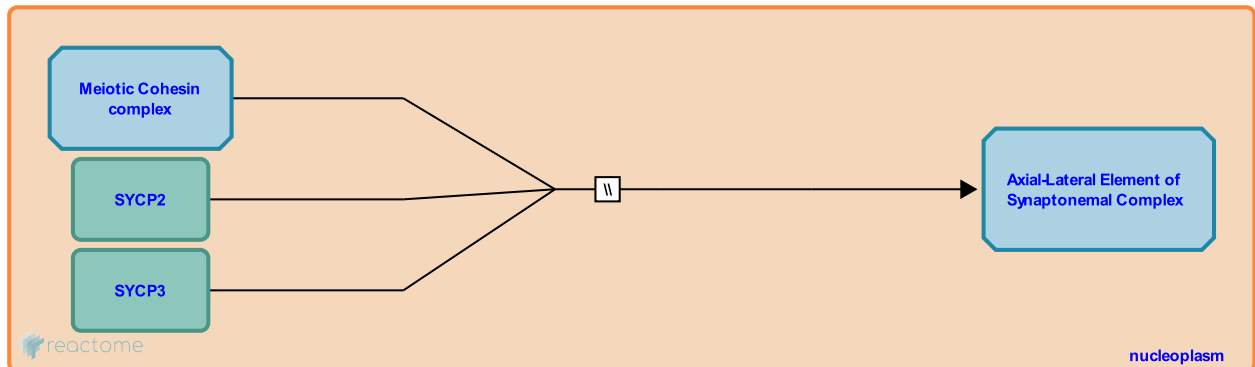
Formation of axial/lateral elements of Synaptonemal Complex ↗

Stable identifier: R-HSA-912389

Type: omitted

Compartments: nucleoplasm

Inferred from: [Formation of Axial/Lateral Elements of Synaptonemal Complex \(Mus musculus\)](#)



Axial elements begin assembling as short linear segments along the long axis of the chromosome in leptotene phase. Eventually the short segments will fuse to form the complete axial element along the entire length of the chromosome. After synapsis the axial elements are also known as lateral elements of the synaptonemal complex. Within axial elements the sister chromatids are bound together by meiotic cohesin (Prieto et al. 2004, Garcia-Cruz et al. 2010). The bound chromatids are anchored to a complex containing SYCP2 and SYCP3 via a direct or indirect interaction with cohesin (Garcia-Cruz et al. 2010).

Literature references

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Barbero, JL., Brieño, MA., Garcia Caldes, M., Grossmann, M., Velilla, E., Pessarrodona, A. et al. (2010). Dynamics of cohesin proteins REC8, STAG3, SMC1 β and SMC3 are consistent with a role in sister chromatid cohesion during meiosis in human oocytes. *Hum Reprod*. ↗

Editions

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