Serum amyloid P binds DNA and chromatin

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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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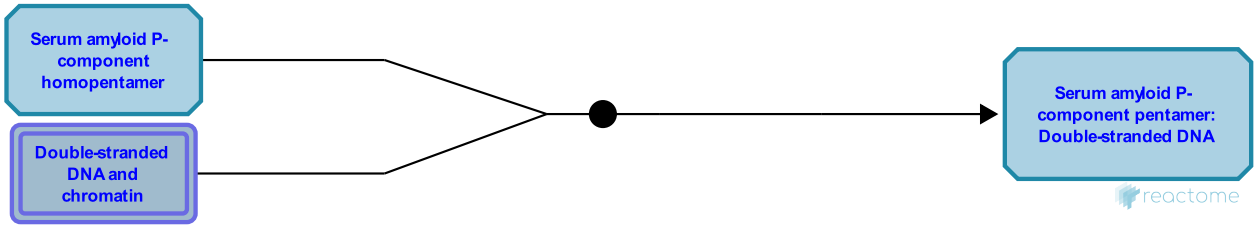
Stable identifier: R-HSA-977224

Type: binding

Compartments: extracellular region



Serum amyloid P component (SAP) binds DNA and chromatin in a calcium dependent manner in physiological conditions (Pepys et al. 1987). This binding displaces H1-type histones (Butler et al. 1990), solubilizing chromatin which is otherwise insoluble in extracellular fluids. SAP may therefore participate in the in vivo handling of chromatin exposed by cell death. SAP knockout mice spontaneously develop antinuclear autoimmunity and severe glomerulonephritis, a phenotype resembling human systemic lupus erythematosus, a serious autoimmune disease, suggesting that SAP binding may play a role in reducing the immunogenicity of chromatin and preventing autoimmunity (Bickerstaff et al. 1999).

Literature references

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Editions

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