The role of protein SUMOylation in rheumatoid arthritis

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Small ubiquitin-like modifier (SUMO) proteins, as a subgroup of post-translational modifiers, act to change the function of proteins. Through their interactions with different targets, immune pathways, and the responses they elicit, can be affected by these SUMO conjugations. Thus, both a change to protein function and involvement in immune pathways has the potential to promote an efficient immune response to either a pathogenic challenge, or the development of an imbalance that could lead to an autoimmune-based disease. Also, a variety of changes such as mutations and polymorphisms can interfere with common functions of these modifications and move an effective immune response in the direction of an autoimmune disease. The present review discusses the general characteristics of SUMO proteins and focuses on their involvement in rheumatoid arthritis as an autoimmune disease.

Post-translational modifications

Proteins

Rheumatoid arthritis

Small ubiquitin-like modifier

collagenase 3

interstitial collagenase

stromelysin

SUMO protein

SUMO protein

apoptosis

autoimmunity

cartilage

genetic susceptibility

human

immunopathogenesis

inflammation

nonhuman

priority journal

protein function

Review

rheumatoid arthritis

single nucleotide polymorphism

sumoylation

genetic polymorphism

genetics

metabolism

pathology

physiology

proteomics

rheumatoid arthritis

sumoylation

Arthritis, Rheumatoid

Autoimmunity

Humans

Inflammation

Polymorphism, Genetic

Proteomics

Small Ubiquitin-Related Modifier Proteins

Sumoylation