Collagen HSP47

Collagen production

Fibrosis

Reduced collagen HSP47

Collagen production

Fibrosis

Fibrosis is scarring characterized by the accumulation of the protein collagen.

Increased levels of HSP47 contribute to the production and accumulation of excessive amounts of collagen, which promotes the formation of fibrosis.

Elevated levels of HSP47 are observed in models of fibrosis and human fibrotic disease.

Targeted downregulation of HSP47 in the liver can lead to improper folding of collagen within cells.

Without proper folding, collagen clumps together inside of cells, decreasing the amount of collagen that is secreted outside of the cell.

A decrease in the amount of secreted collagen may lead to a decrease in fibrosis.

Heat shock protein 47 (HSP47) is a collagen-specific chaperone involved in the formation and stabilization of collagen molecules. Collagen is a structural protein that is found in skin and other connective tissues throughout the body. HSP47 guides the correct folding of the collagen protein and ensures it maintains the correct structure. 1, 2

HSP47 and Fibrosis

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Research Implications

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Heat Shock Protein 47 (HSP47) Pathway

HSP47 resides in the endoplasmic reticulum (ER) of collagen-synthesizing cells. 1

What is HSP47?

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Collagen-Synthesizing Cell

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