Signaling molecule STING protects against cardiac dysfunction

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Video Byte

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Abstract

A healthy heart is one that stays in shape—literally. Remodeling of the heart's structure is both a cause and an effect of heart disease. One molecule that could help fortify the heart against harmful reshaping is STING. STING is a signaling molecule that triggers a fleet of protective chemicals during infection, but recent studies suggest STING could also play a role in heart injury. To explore this role, researchers monitored STING in mouse models of heart remodeling. Mice experiencing heart remodeling showed elevated levels of STING. To isolate the effects of STING, certain mice were genetically altered to overexpress the molecule. Compared with unmodified mice, these high-STING mice showed smaller changes in heart size and better overall heart function. Cell experiments revealed that STING could provide these protective effects by combating autophagy. Autophagy is the process of degrading and recycling parts of the cell and is the driver of heart remodeling. Further explorations could help clarify this relationship between STING and autophagy and perhaps lead to new therapies against heart failure.