Putting a 'HEX' on muscle regeneration

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A complex genetic regulatory network mediates the regeneration of adult skeletal muscles. In this issue of the Journal of Clinical Investigation, researchers at the State University of New York Downstate Medical Center in Brooklyn report that HEXIM1, a protein that regulates gene transcription, is important for skeletal muscle regeneration in mice.

M.A.Q. Saddiqui and colleagues found that HEXIM1 blocks gene expression that is required for muscle regeneration after injury.

Mice with a 50% reduction in HEXIM1 exhibited greater muscle mass and function after injury compared to mice with a normal amount of the gene. These results indicate that HEXIM1 may be a therapeutic target in degenerative muscle diseases.