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## A better Life



By Kirk and Jay VanRensselaer, Johns Hopkins University

**Mighty mouse:** A "quadruple-muscled" double-mutant mouse, left, and a normal mouse.

### Mutant muscle made even mightier

The Johns Hopkins scientist who showed that mice could be genetically engineered to double their muscle size has now found a way to quadruple it. Se-jin Lee, a professor of molecular biology and genetics, first created mice in which the gene that produces a protein called myostatin was silenced. Myostatin puts a brake on muscle development and growth, leading to mice that are twice as muscular with half the fat. Several cattle breeds carry the same mutation naturally, as well as at least one person, a young boy in Germany. In today's edition of the online journal *Public Library of Science (PLOS) ONE*, Lee shows that overproduction of a second protein, called follistatin, causes a further doubling. Lee and others are working to find ways to apply these findings in humans with muscle-wasting diseases such as muscular dystrophy, cancer and AIDS.