

# Researchers discover protein that controls bone growth

December 19 2007

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A research team led by Dr. Pierre Moffatt of the Shriners Hospital for Children in Montreal and McGill University's Department of Human Genetics has uncovered the molecular mechanism by which the protein osteocrin controls bone growth – a discovery that may have important implications for people suffering from bone diseases affecting skeletal growth. The team's findings appear in the December 14 edition of the *Journal of Biological Chemistry*.

Osteocrin is a small protein produced by the body's bone-forming cells, or osteoblasts. In this study, mice that were genetically engineered to over-express osteocrin developed hunchbacks and elongated bones. This led Dr. Moffatt and his colleagues to the discovery that osteocrin locally controls the bone's supply of a hormone known as CNP, which plays an important role in the regulation of bone growth.

"The osteocrin gene was discovered as part of a project to identify novel bone genes that might have possible therapeutic actions," explained Dr. Moffatt. "The project focused on the identification of classes of genes which are particularly attractive to medical researchers because they can be potentially exploited to develop new drug-based therapies."

Most of the research was initially carried out at Phenogene and Enobia Pharma, two Montreal-based biotech companies, but it was finalized in Dr. Moffatt's lab at the Shriners Hospital for Children in Montreal.

"This fundamental research could pave the way to the rationalized design

of new molecules which could have beneficial effects in various disorders that impair bone growth, particularly in children,” said Dr. Moffatt.

Source: McGill University

Citation: Researchers discover protein that controls bone growth (2007, December 19) retrieved 27 April 2024 from <https://medicalxpress.com/news/2007-12-protein-bone-growth.html>

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