

# Growth curve analyses of Finnish population shed light on the genetic regulation of growth in height

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Researchers at the University of Helsinki and the Institute for Molecular Medicine Finland (FIMM) have shown that a gene called LIN28B strongly influences height growth from birth to adulthood in a complex and sex-specific manner.

Human growth in height is a multifaceted process including periods of accelerated and decelerated growth velocities. The postnatal growth trajectory can be conceptualized as consisting of three partially overlapping phases: infant growth characterized by rapidly declining growth velocities, slowly decelerating childhood growth, and the pubertal height growth spurt.

Height is strongly regulated by [genes](#), and so far more than 40 [genes](#) have been implicated influencing adult height. Yet, little is known about how individual genes regulate growth in height.

Utilizing the unique resource of longitudinal childhood height growth data available in Finnish population cohorts, researchers at the University of Helsinki and the Institute for Molecular Medicine Finland (FIMM) have pinpointed broad height growth regulating effects to a gene called LIN28B. The same gene is known to be a key regulator of developmental timing in the [nematode](#) *C. elegans* and has previously been associated both with timing of menarche and adult height in humans.

Applying genome-wide association mapping technology, the researchers have now shown that the gene strongly influences the timing of the pubertal height growth spurt both in males and females but they also found that it regulates height growth from birth to adulthood in a complex and sex-specific manner.

"Interestingly; two separate variants of the gene were found to influence growth, one with a more prominent height increasing effect in males and another one increasing height only in females", tells Academy Research Fellow, Dr. Elisabeth Widén.

Provided by University of Helsinki

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