

KRT86 gene

keratin 86

Normal Function

The *KRT86* gene provides instructions for making the type II hair keratin K86 protein (K86). This protein belongs to a group of proteins known as keratins, which are tough, fibrous proteins that form the structural framework of cells that make up the hair, skin, and nails. Each keratin protein partners with another keratin protein to form molecules called intermediate filaments. These filaments assemble into strong networks that provide strength and resiliency to the tissues and protect them from being damaged by everyday physical stresses. The K86 protein is found in cells that make up the inner compartment of the hair shaft known as the cortex, and this protein helps give hair its strength and elasticity.

Health Conditions Related to Genetic Changes

Monilethrix

Several mutations in the *KRT86* gene can cause monilethrix, a hair condition characterized by strands of hair with a beaded appearance and short, brittle hair that breaks easily. Mutations associated with this condition change a single protein building block (amino acid) in the K86 protein. The amino acid changes usually occur in a region of the K86 protein thought to be important in intermediate filament formation. In people with monilethrix, the cortex of the affected hair shaft appears abnormal. However, it is unclear how mutations in the *KRT86* gene are related to the abnormality in the cortex or the beaded appearance of the hair.

Other Names for This Gene

- hair keratin K2.11
- hard keratin, type II, 6
- HB6
- hHb6
- K86
- keratin 86, type II
- keratin K-86

- keratin protein HB6
- keratin-86
- KRT86_HUMAN
- KRTHB6
- MNX
- type II hair keratin Hb6

Additional Information & Resources

Tests Listed in the Genetic Testing Registry

- Tests of KRT86 ([https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=3892\[geneid\]](https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=3892[geneid]))

Scientific Articles on PubMed

- PubMed (<https://pubmed.ncbi.nlm.nih.gov/?term=%28KRT86%5BTIAB%5D%29+OR+%28%28HB6%5BTIAB%5D%29+OR+%28hHb6%5BTIAB%5D%29+OR+%28K86%5BTIAB%5D%29+OR+%28KRTHB1%5BTIAB%5D%29+OR+%28KRTHB6%5BTIAB%5D%29%29+AND+%28%28Genes%5BMH%5D%29+OR+%28Genetic+Phenomena%5BMH%5D%29%29+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+3600+days%22%5Bdp%5D%29>)

Catalog of Genes and Diseases from OMIM

- KERATIN 86, TYPE II; KRT86 (<https://omim.org/entry/601928>)

Gene and Variant Databases

- NCBI Gene (<https://www.ncbi.nlm.nih.gov/gene/3892>)
- ClinVar ([https://www.ncbi.nlm.nih.gov/clinvar?term=KRT86\[gene\]](https://www.ncbi.nlm.nih.gov/clinvar?term=KRT86[gene]))

References

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Genomic Location

The *KRT86* gene is found on chromosome 12 (<https://medlineplus.gov/genetics/chromosome/12/>).

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