WNT5A gene

Wnt family member 5A

Normal Function

The *WNT5A* gene is part of a large family of WNT genes, which play critical roles in development starting before birth. These genes provide instructions for making proteins that participate in chemical signaling pathways in the body. Wnt signaling controls the activity of certain genes and regulates the interactions between cells during embryonic development.

The protein produced from the *WNT5A* gene is part of chemical signaling pathways that control the movement of cells (cell migration) and attachment of cells to one another (cell adhesion) during early development. Studies suggest that the WNT5A protein plays important roles in the normal development of many parts of the body, including the brain, skeleton, blood cells, and fatty (adipose) tissue.

Health Conditions Related to Genetic Changes

Robinow syndrome

At least six mutations in the *WNT5A* gene have been found to cause the autosomal dominant form of Robinow syndrome, a condition that affects the development of many parts of the body, particularly the bones. Autosomal dominant inheritance means that one copy of the altered gene in each cell is sufficient to cause the disorder. Most of the known mutations change a single protein building block (amino acid) in the WNT5A protein. These mutations alter the structure of the protein, which likely affects its interactions with other proteins involved in Wnt signaling. The resulting impairment of Wnt signaling pathways disrupts the development of many organs and tissues, leading to the features of Robinow syndrome.

Other Names for This Gene

- hWNT5A
- wingless-type MMTV integration site family member 5A
- wingless-type MMTV integration site family, member 5A
- WNT-5A protein

Additional Information & Resources

Tests Listed in the Genetic Testing Registry

- Tests of WNT5A (https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=7474[geneid])

Scientific Articles on PubMed

- PubMed (https://pubmed.ncbi.nlm.nih.gov/?term=%28WNT5A%5BTI%5D%29+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+720+days%22%5Bdp%5D)

Catalog of Genes and Diseases from OMIM

- WINGLESS-TYPE MMTV INTEGRATION SITE FAMILY, MEMBER 5A; WNT5A (https://omim.org/entry/164975)

Gene and Variant Databases

- NCBI Gene (https://www.ncbi.nlm.nih.gov/gene/7474)
- ClinVar (https://www.ncbi.nlm.nih.gov/clinvar?term=WNT5A[gene])

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Genomic Location

The *WNT5A* gene is found on chromosome 3 (https://medlineplus.gov/genetics/chromosome/3/).

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