

MANBA gene

mannosidase beta

Normal Function

The *MANBA* gene provides instructions for making the enzyme beta-mannosidase. This enzyme works in the lysosomes, which are compartments that digest and recycle materials in the cell. Within lysosomes, the enzyme helps break down complexes of sugar molecules (oligosaccharides) attached to proteins called glycoproteins. Beta-mannosidase is involved in the last step of this process, helping to break down complexes of two-sugar molecules (disaccharides) containing a sugar molecule called mannose.

Health Conditions Related to Genetic Changes

Beta-mannosidosis

Variants (also known as mutations) in the *MANBA* gene cause beta-mannosidosis. This disorder affects the way certain sugar molecules are processed in the body, resulting in various nervous system problems. The gene variants that cause beta-mannosidosis result in a beta-mannosidase enzyme with little or no activity. As a result the enzyme is unable to perform its role in breaking down mannose-containing disaccharides. These disaccharides gradually accumulate in the lysosomes and cause cells to malfunction, resulting in the signs and symptoms of beta-mannosidosis.

Other Names for This Gene

- MANB1
- MANBA_HUMAN
- mannanase
- mannase
- mannosidase, beta A, lysosomal

Additional Information & Resources

Tests Listed in the Genetic Testing Registry

- Tests of MANBA ([https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=4126\[geneid\]](https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=4126[geneid]))

Scientific Articles on PubMed

- PubMed (<https://pubmed.ncbi.nlm.nih.gov/?term=%28MANBA%5BTIAB%5D%29+OR+%28%28MANB1%5BTIAB%5D%29+OR+%28mannase%5BTIAB%5D%29+OR+%28mannanase%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>)

Catalog of Genes and Diseases from OMIM

- MANNOSIDASE, BETA A, LYSOSOMAL; MANBA (<https://omim.org/entry/609489>)

Gene and Variant Databases

- NCBI Gene (<https://www.ncbi.nlm.nih.gov/gene/4126>)
- ClinVar ([https://www.ncbi.nlm.nih.gov/clinvar?term=MANBA\[gene\]](https://www.ncbi.nlm.nih.gov/clinvar?term=MANBA[gene]))

References

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Genomic Location

The *MANBA* gene is found on chromosome 4 (<https://medlineplus.gov/genetics/chromosome/4/>).

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