

## IL17RC gene

interleukin 17 receptor C

### Normal Function

The *IL17RC* gene provides instructions for making a protein that is involved in immune system function, specifically in the body's defense against a fungus called *Candida*. When the immune system recognizes *Candida*, it generates cells called Th17 cells. These cells produce signaling molecules (cytokines) called the interleukin-17 (IL-17) family as part of an immune process called the IL-17 pathway. The IL-17 pathway creates inflammation, sending other cytokines and white blood cells that fight foreign invaders and promote tissue repair. In addition, the IL-17 pathway promotes the production of certain antimicrobial protein segments (peptides) that control growth of *Candida* on the surface of mucous membranes.

The protein produced from the *IL17RC* gene is present in many tissue types in the body, and is involved in cell signaling as part of the IL-17 pathway. Together with the protein produced from the *IL17RA* gene, it forms one of several receptors for IL-17 cytokines. Receptor proteins have specific sites into which certain other proteins, called ligands, fit like keys into locks. Certain IL-17 cytokines attach to receptors containing the IL17RC and IL17RA proteins, triggering signals that promote inflammation and the defense against *Candida* infection.

### Health Conditions Related to Genetic Changes

#### Familial candidiasis

At least three mutations in the *IL17RC* gene have been identified in people with familial candidiasis, an inherited tendency to develop infections caused by the *Candida* fungus (commonly known as yeast infections). Most people with familial candidiasis have chronic yeast infections of the skin, nails, and mucous membranes (collectively called chronic mucocutaneous candidiasis) beginning in early childhood.

*IL17RC* gene mutations result in an absence of IL17RC receptor protein. Loss of this protein impairs binding of IL-17 cytokines and IL-17 signaling. This impaired signaling decreases production of the antimicrobial peptides and inflammatory molecules that are critical for defense against *Candida*, and results in the chronic infection that occurs in familial candidiasis.

## Other Names for This Gene

- IL-17 receptor C
- IL-17RL
- IL17F receptor
- interleukin-17 receptor homolog
- interleukin-17 receptor-like protein

## Additional Information & Resources

### Tests Listed in the Genetic Testing Registry

- Tests of IL17RC ([https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=84818\[geneid\]](https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=84818[geneid]))

### Scientific Articles on PubMed

- PubMed (<https://pubmed.ncbi.nlm.nih.gov/?term=%28%28IL17RC%5BTIAB%5D%29+OR+%28interleukin+17+receptor+C%5BTIAB%5D%29%29+OR+%28%28IL-17+receptor+C%5BTIAB%5D%29+OR+%28IL-17RL%5BTIAB%5D%29+OR+%28IL17F+receptor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+1+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+2+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+3+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+4+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+5+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+C+isoform+6+precursor%5BTIAB%5D%29+OR+%28interleukin-17+receptor+homolog%5BTIAB%5D%29+OR+%28interleukin-17+receptor-like+protein%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+1800+days%22%5Bdp%5D%29>)

### Catalog of Genes and Diseases from OMIM

- INTERLEUKIN 17 RECEPTOR C; IL17RC (<https://omim.org/entry/610925>)

### Gene and Variant Databases

- NCBI Gene (<https://www.ncbi.nlm.nih.gov/gene/84818>)
- ClinVar ([https://www.ncbi.nlm.nih.gov/clinvar?term=IL17RC\[gene\]](https://www.ncbi.nlm.nih.gov/clinvar?term=IL17RC[gene]))

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## Genomic Location

The *IL17RC* gene is found on chromosome 3 (<https://medlineplus.gov/genetics/chromosome/3/>).

**Last updated September 1, 2016**