# Article information:

Frontiers | Clinical Relevance of Gain- and Loss-of-Function Germline Mutations in STAT1: A Systematic Review  
<https://www.frontiersin.org/articles/10.3389/fimmu.2021.654406/full>

# Article summary:

1. Signal transducer and activator of transcription 1 (STAT1) is a key member of the STAT family that plays an important role in regulating cell growth, differentiation, proliferation, metabolism, and apoptosis.

2. Germline mutations in STAT1 have been linked to immunodeficiency and immune dysregulation with a wide clinical spectrum beyond malignancies.

3. This systematic review seeks to provide an overview of STAT1 LOF and GOF cases published up until May 2020, as well as describe the genetic, functional, and clinical manifestations of these mutations.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy due to its use of systematic methods for data collection and analysis. The authors conducted a comprehensive literature search using five databases (MEDLINE, Web of Science, Cochrane Central Register of Controlled Trials, EMBASE, and Scopus), as well as manual searches on Google Scholar. They also followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines when conducting their review. Furthermore, they used statistical analysis software (SPSS 25) to analyze the data collected from their search results.

However, there are some potential biases that should be noted in this article. First, the authors only included studies written in English or French which may have excluded relevant studies written in other languages. Second, they only included studies published online between July 2001 and May 2020 which may have excluded older studies that were not available online or more recent studies that had not yet been published at the time of their search. Thirdly, they did not include any unpublished data which could have provided additional insights into the topic being discussed. Finally, it is possible that some relevant studies were missed due to errors in keyword selection or other factors related to the search process itself.

In conclusion, this article is generally reliable but there are some potential biases that should be taken into consideration when interpreting its findings.

# Topics for further research:

* Systematic review bias
* PRISMA guidelines
* Language bias in research
* Online publication bias
* Unpublished data in research
* Keyword selection in systematic reviews

# Report location:

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