p-STAT1, p-STAT3 dissociate from IL27RA:IL12RB2 receptor

Pylayeva-Gupta, Y., Singh, K., Varusai, TM.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

18/05/2024

Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics, 18*, 142. ↗

Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics, 33*, 3461-3467. ↗

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res, 46*, D649-D655. ↗

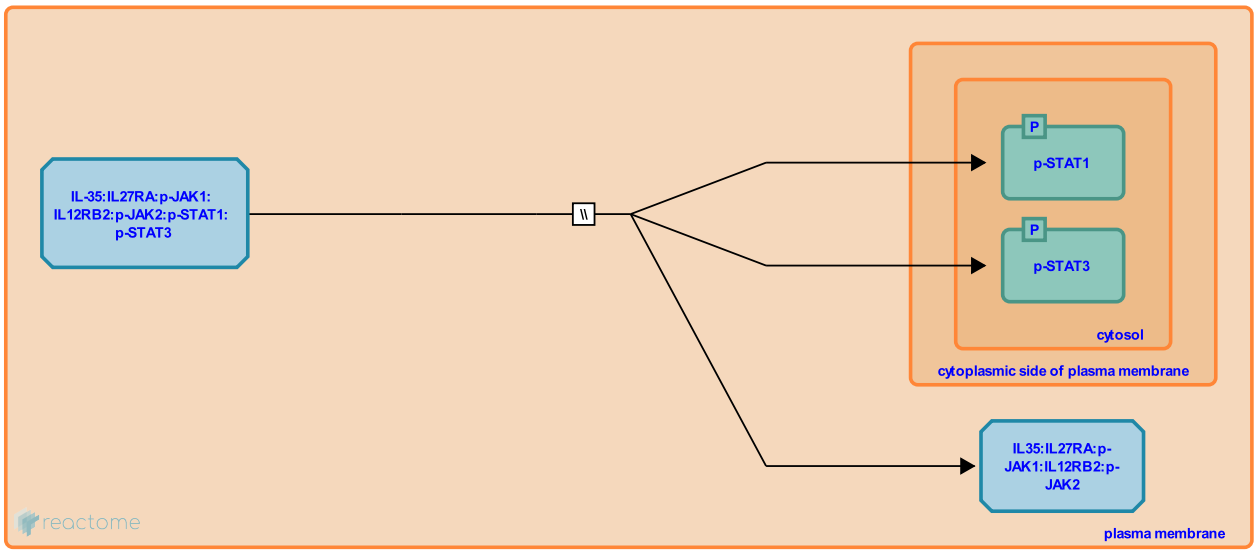
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

p-STAT1, p-STAT3 dissociate from IL27RA:IL12RB2 receptor ↗

Stable identifier: R-HSA-8984023

Type: omitted

Compartments: plasma membrane, cytosol, extracellular region



Interleukin 35 (IL35) can signal via IL35 receptors triggering the JAK/STAT pathway downstream. Signal transducer and activator of transcription 1 alpha/beta (STAT1) and Signal transducer and activator of transcription 3 alpha/beta (STAT3) bind to the JAK associated IL35 receptor complex and are activated via phosphorylations. Subsequently, phosphorylated p STAT1:p STAT3 dissociates from the receptor complex (Wang et al. 2014). This is a black box event because there is no literature evidence about the exact mechanism of the release of STAT1 and STAT3 from the receptor complex.

Literature references

Kaufmann, SH., Grützkau, A., Grün, JR., Lampropoulou, V., Li, R., Boudinot, P. et al. (2014). IL-35-producing B cells are critical regulators of immunity during autoimmune and infectious diseases. *Nature, 507*, 366-70. ↗

Kim, SH., Wingfield, PT., Mahdi, RM., Dambuza, IM., Yu, CR., Wang, RX. et al. (2014). Interleukin-35 induces regulatory B cells that suppress autoimmune disease. *Nat. Med., 20*, 633-41. ↗

Editions

2016-12-15	Authored, Edited	Varusai, TM.
2017-07-05	Reviewed	Singh, K.
2017-08-09	Reviewed	Pylayeva-Gupta, Y.