

# FGFR1OP-FGFR1 phosphorylates STAT1 and STAT3

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## 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.

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## Literature references

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Reactome database release: 70

This document contains 1 reaction ([see Table of Contents](#))

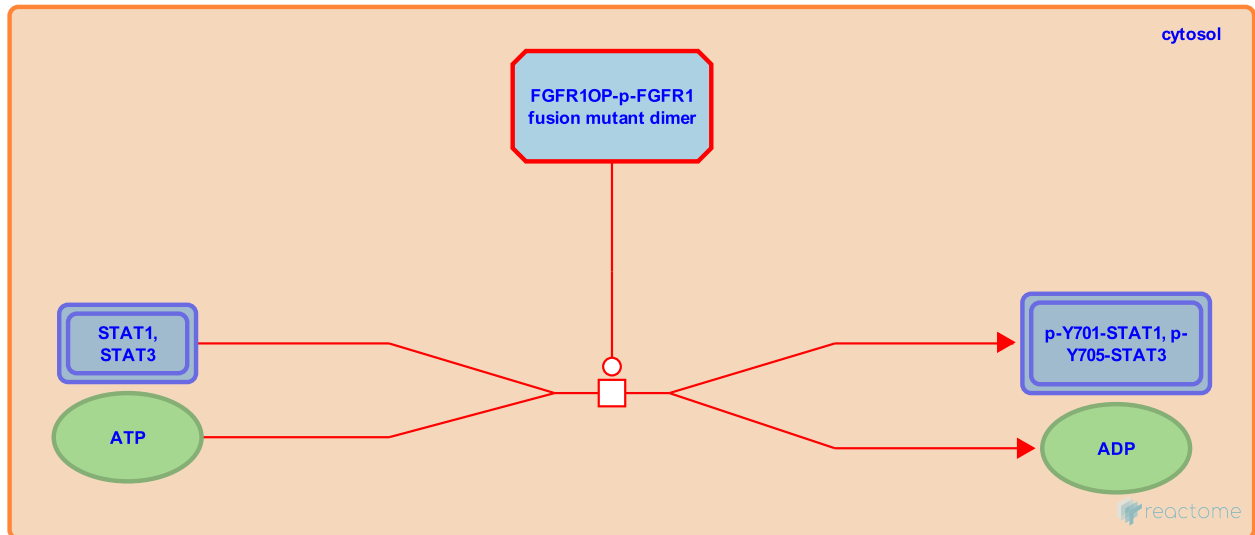
## FGFR1OP-FGFR1 phosphorylates STAT1 and STAT3 ↗

**Stable identifier:** R-HSA-1888198

**Type:** transition

**Compartments:** cytosol

**Diseases:** myelodysplastic myeloproliferative cancer, cancer, precursor lymphoblastic lymphoma/leukemia, subacute leukemia



Expression of FGFR1OP-FGFR1 in both Ba/F3 and Cos-1 cells leads to phosphorylation of STAT1 and STAT3 but not STAT5, and to activation of a STAT1/3-responsive reporter when expressed in NIH3T3 cells (Guasch, 2001). Activation of STAT proteins has also been shown to be oncogenic in the context of derivatives of FGFR1, 3 and 4 that lack the extracellular domain and are targeted to the plasma membrane by a myristylation signal (Hart et al, 2000).

### Literature references

Guasch, G., Ollendorff, V., Borg, JP., Birnbaum, D., Pébusque, MJ. (2001). 8p12 stem cell myeloproliferative disorder: the FOP-fibroblast growth factor receptor 1 fusion protein of the t(6;8) translocation induces cell survival mediated by mitogen-activated protein kinase and phosphatidylinositol 3-kinase/Akt/mTOR pathways. *Mol Cell Biol*, 21, 8129-42. ↗

Hart, KC., Robertson, SC., Kanemitsu, MY., Meyer, AN., Tynan, JA., Donoghue, DJ. (2000). Transformation and Stat activation by derivatives of FGFR1, FGFR3, and FGFR4. *Oncogene*, 19, 3309-20. ↗

### Editions

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