

BCR-FGFR1:GRB2:p-GAB2 binds PIK3R1

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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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- 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. [↗](#)
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Reactome database release: 70

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

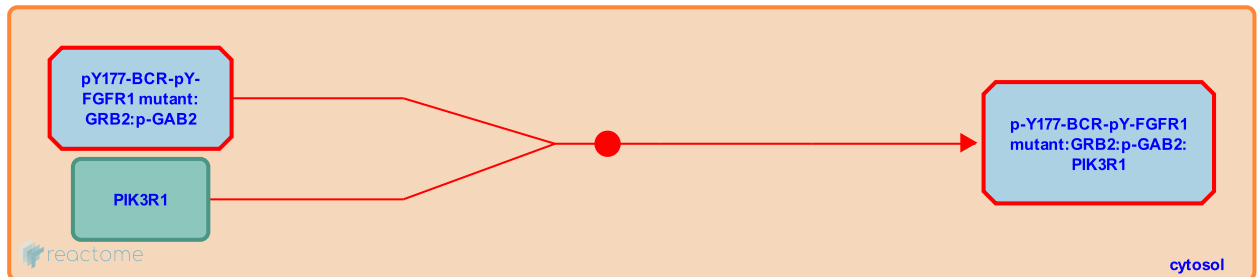
BCR-FGFR1:GRB2:p-GAB2 binds PIK3R1 [↗](#)

Stable identifier: R-HSA-1839114

Type: binding

Compartments: cytosol

Diseases: cancer, chronic myeloid leukemia



Based on analogy with studies of the BCR-ABL fusion, phosphorylated GAB2 recruits the regulatory subunit of PI3K to the BCR-FGFR1 fusion (Sattler, 2002; Demiroglu, 2001; Roumiantsev, 2004).

Literature references

Roumiantsev, S., Krause, DS., Neumann, CA., Dimitri, CA., Asiedu, F., Cross, NC. et al. (2004). Distinct stem cell myeloproliferative/T lymphoma syndromes induced by ZNF198-FGFR1 and BCR-FGFR1 fusion genes from 8p11 translocations. *Cancer Cell*, 5, 287-98. [↗](#)

Sattler, M., Mohi, MG., Pride, YB., Quinnan, LR., Malouf, NA., Podar, K. et al. (2002). Critical role for Gab2 in transformation by BCR/ABL. *Cancer Cell*, 1, 479-92. [↗](#)

Demiroglu, A., Steer, EJ., Heath, C., Taylor, K., Bentley, M., Allen, SL. et al. (2001). The t(8;22) in chronic myeloid leukemia fuses BCR to FGFR1: transforming activity and specific inhibition of FGFR1 fusion proteins. *Blood*, 98, 3778-83. [↗](#)

Editions

2012-02-09	Authored	Rothfels, K.
2012-05-15	Reviewed	Ezzat, S.
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