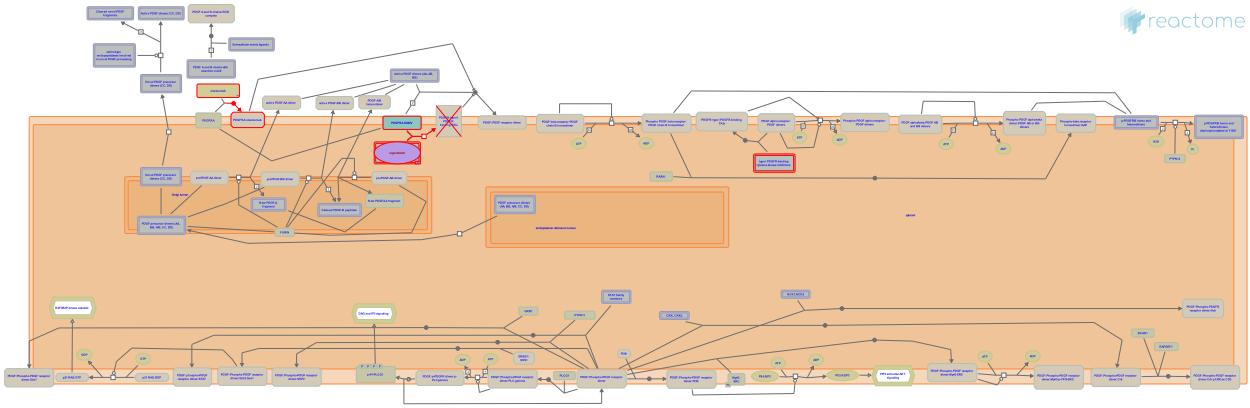
Regorafenib-resistant PDGFR mutants



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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.

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. ↗

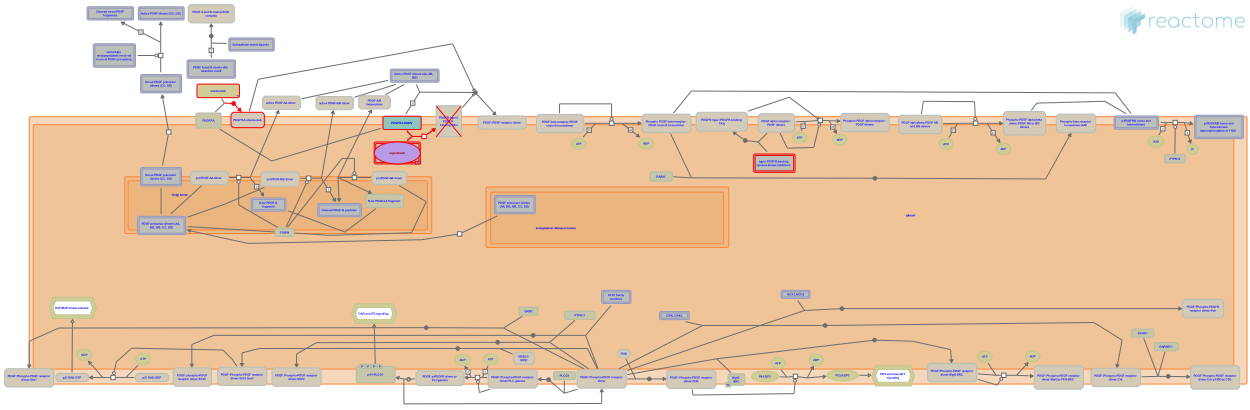
Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res, 46*, D649-D655. ↗

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. ↗

Regorafenib-resistant PDGFR mutants

Stable identifier: R-HSA-9674403

Diseases: cancer



Regorafenib is a type II TKI that is approved for the treatment of advanced gastrointestinal stromal tumors. Although regorafenib is effective against a number of KIT and PDGFR mutations, it only weakly inhibits the activity of the most prevalent PDGFRA allele, D842V (Evans et al, 2017).

Literature references

Heinrich, MC., Zhang, Y., Hodous, BL., Shutes, A., Lengauer, C., Evans, EK. et al. (2017). A precision therapy against cancers driven by KIT/PDGFRA mutations. *Sci Transl Med, 9*.

Editions

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Regorafenib-resistant PDGFR mutants don't bind regorafenib ↗

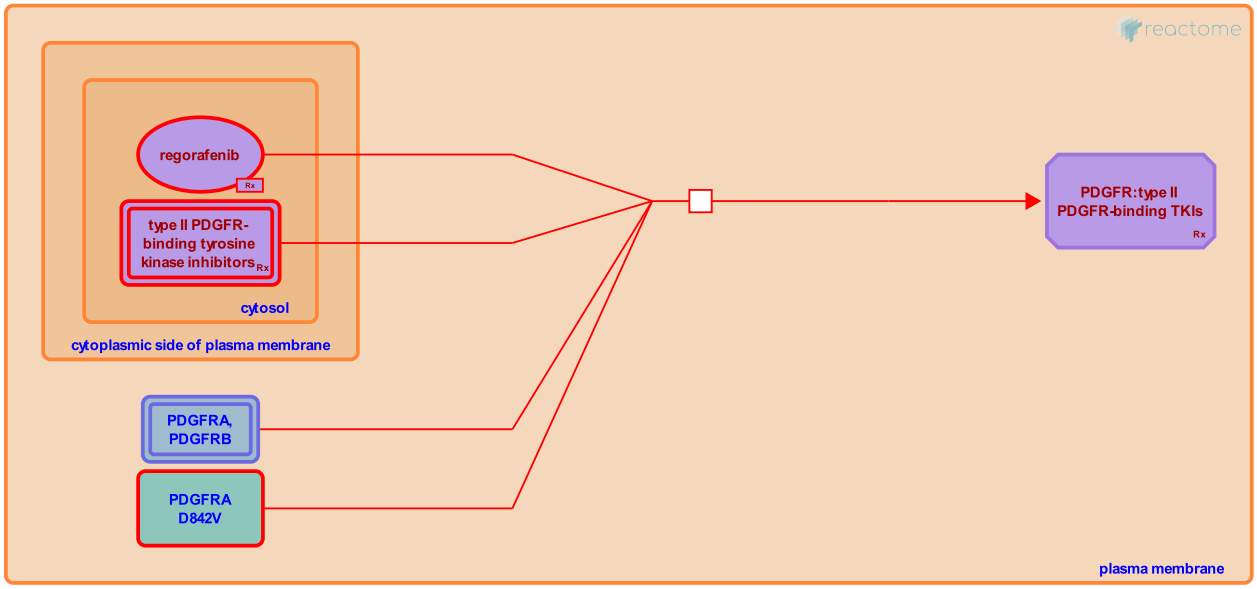
Location: Regorafenib-resistant PDGFR mutants

Stable identifier: R-HSA-9674408

Type: transition

Compartments: plasma membrane, cytosol

Diseases: cancer



Regorafenib only weakly inhibits the activity of the most prevalent PDGFRA mutation, D842V (Evans et al, 2017).

Literature references

Heinrich, MC., Zhang, Y., Hodous, BL., Shutes, A., Lengauer, C., Evans, EK. et al. (2017). A precision therapy against cancers driven by KIT/PDGFRA mutations. *Sci Transl Med, 9*. ↗

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Table of Contents