Drug resistance in ERBB2 KD mutants

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This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the Reactome Textbook.

18/12/2022
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


Drug resistance in ERBB2 KD mutants

Stable identifier: R-HSA-9665230

Diseases: cancer

ERBB2 kinase domain (KD) mutants vary in their resistance to various tyrosine kinase inhibitors and therapeutic antibody trastuzumab (herceptin).

The following ERBB2 KD mutants are resistant to the therapeutic antibody trastuzumab (herceptin):

ERBB2 L755P (Nagano et al. 2018);
ERBB2 L755S (Nagano et al. 2018);
ERBB2 I767M (Bose et al. 2013);
ERBB2 D769Y (Nagano et al. 2018);
ERBB2 V777L (Nagano et al. 2018);
ERBB2 T798M (Rexer et al. 2013);
ERBB2 V842I (Nagano et al. 2018);
ERBB2 T862A (Nagano et al. 2018);
ERBB2 L869R (Hanker et al. 2017);

For ERBB2 R896C, both resistance (Bose et al. 2013) and sensitivity (Nagano et al. 2018) to trastuzumab have been reported.
**Literature references**


**Editions**

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Resistance of ERBB2 KD mutants to trastuzumab

Location: Drug resistance in ERBB2 KD mutants

Stable identifier: R-HSA-9665233

Diseases: cancer

This pathway describes resistance of ERBB2 KD mutants to therapeutic antibody trastuzumab (herceptin) (Bose et al. 2013, Rexer et al. 2013, Hanker et al. 2017, Nagano et al. 2018).

Literature references


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Resistance of ERBB2 KD mutants to lapatinib

Location: Drug resistance in ERBB2 KD mutants

Stable identifier: R-HSA-9665251

Diseases: cancer


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Resistance of ERBB2 KD mutants to neratinib

Location: Drug resistance in ERBB2 KD mutants

Stable identifier: R-HSA-9665246

Diseases: cancer

This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor neratinib (Hanker et al. 2017).

Literature references


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Resistance of ERBB2 KD mutants to osimertinib

**Location:** Drug resistance in ERBB2 KD mutants

**Stable identifier:** R-HSA-9665247

**Diseases:** cancer

This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor osimertinib (Hanker et al. 2017).

**Literature references**


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Resistance of ERBB2 KD mutants to afatinib

Location: Drug resistance in ERBB2 KD mutants

Stable identifier: R-HSA-9665249

Diseases: cancer

This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor afatinib (Rexer et al. 2013, Hanker et al. 2017).

Literature references


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Resistance of ERBB2 KD mutants to tesevatinib

**Location:** Drug resistance in ERBB2 KD mutants

**Stable identifier:** R-HSA-9665245

**Diseases:** cancer

This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor tesevatinib (Trowe et al. 2018).

**Literature references**


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https://reactome.org
This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor sapitinib (Nagano et al. 2018).

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This pathway describes resistance of ERBB2 KD mutants to tyrosine kinase inhibitor AEE788 (Kancha et al. 2011).

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