Trans-autophosphorylation of ERBB2 homodimer

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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


Reactome database release: 71

This document contains 1 reaction (see Table of Contents)
Trans-autophosphorylation of ERBB2 homodimer

Stable identifier: R-HSA-1248694

Type: transition

Compartments: plasma membrane, cytosol, extracellular region

Diseases: cancer

ERBB2 homodimers trans-autophosphorylate to form phosphorylated ERBB2 that activates downstream signaling cascades (Hazan et al. 1990, Ricci et al. 1995, Pickl and Ries 2009, Maadi et al. 2018). The best characterized trans-autophosphorylation sites in ERBB2 heterodimers are tyrosines Y1023, Y1139, Y1196, Y1221, Y1222 and Y1248. Studies of ERBB2 homodimers have not investigated trans-autophosphorylated tyrosines of ERBB2 comprehensively. Instead, each study reported a subset of trans-autophosphorylation sites:

Y1023 and Y1248 (Hazan et al. 1990);
Y1139, Y1221 and Y1248 (Ricci et al. 1995);
Y1248 (Pickl and Ries 2009);
Y1139 and Y1248 (Maadi et al. 2018) – this study also identified Y1005, Y1112, Y1127 and Y1196 as trans-autophosphorylation sites.

For ERBB2 homodimers, six canonical sites (Y1023, Y1139, Y1196, Y1221, Y1222 and Y1248) have been annotated as trans-autophosphorylation sites. This information will be revised as more experimental data becomes available.

Literature references


**Editions**

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<td>Reviewed</td>
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<tr>
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<td>Orlic-Milacic, M.</td>
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