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Type I RTKs: ErbB (epidermal growth factor) receptor family in GtoPdb v.2025.3

Laura E. Kilpatrick[1]

1. University of Nottingham, UK

Abstract

ErbB family receptors are Class I receptor tyrosine kinases [51]. EGFR (HER1) was the first member of the family to be identified. ERBB2 (also known as HER-2 or NEU) appears to act as an essential partner for the other members of the family without itself being activated by a cognate ligand [52]. Ligands of the ErbB family of receptors are peptides, many of which are generated by proteolytic cleavage of cell-surface proteins. HER/ErbB is the viral counterpart to the receptor tyrosine kinase EGFR. All family members heterodimerize with each other to activate downstream signalling pathways and are aberrantly expressed in many cancers, particularly forms of breast cancer and lung cancer. Mutations in the EGFR are responsible for acquired resistance to tyrosine kinase inhibitor chemotherapeutics.

Contents

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Please note that the database version for the citations given in GtoPdb are to the most recent preceding version in which the family or its subfamilies and targets were substantially changed. The links below are to the current version. If you need to consult the cited version, rather than the most recent version, please contact the GtoPdb curators.

Database links

Type I RTKs: ErbB (epidermal growth factor) receptor family
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=320

Receptors

- EGFR(epidermal growth factor receptor)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1797
- HER2(erb-b2 receptor tyrosine kinase 2)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2019
- HER3(erb-b2 receptor tyrosine kinase 3)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1798
- HER4(erb-b2 receptor tyrosine kinase 4)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1799

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