**EGFR Signaling in Cancer**

**Modified reactions (from Bidkhori et al.)**

Note: first order rate constants in s-1 and second order rate constants in µM-1 s-1

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|  | **Reaction** | **Parameter** | | **reference** |
| **r73** | **[pEGF-EGFR2-pShc-Grb2-SOS] + cbl <-> [pEGF-EGFR2-pShc-Grb2-SOS-cbl]** | **K73=0.2** | **K73r=0.0025** | **Estimation** |
| **r74** | **[pEGF-EGFR2-pShc-Grb2-SOS-cbl] + EPn <-> [pEGF-EGFR2-pShc-Grb2-SOS-cbl-EPn]** | **K74=2** | **K74r=0.05** | **Estimation** |
| **r75** | **[pEGF-EGFR2-pShc-Grb2-SOS-cbl-EPn] -> cbl + [Grb2-SOS] + EPn + pShc** | **K75=0.0005** |  | **Estimation** |
| **r76** | **[pEGF-EGFR2-Grb2-SOS] + cbl <-> [pEGF-EGFR2-Grb2-SOS-cbl]** | **K76=0.2** | **K76r=0.0025** | **Estimation** |
| **r77** | **[pEGF-EGFR2-Grb2-SOS-cbl] + EPn <-> [pEGF-EGFR2-Grb2-SOS-cbl-EPn]** | **K77=2** | **K77r=0.05** | **Estimation** |
| **r78** | **[pEGF-EGFR2-Grb2-SOS-cbl-EPn] -> cbl + [Grb2-SOS] + EPn** | **K78=0.0005** |  | **Estimation** |
| **r79** | **[pEGF-EGFR2] + cbl <-> [pEGF-EGFR2-cbl]** | **K79=0.2** | **K79r=0.0005** | **Estimation** |
| **r80** | **[pEGF-EGFR2-cbl] + EPn <-> [pEGF-EGFR2-cbl-EPn]** | **K80=2** | **K80r=0.05** | **Estimation** |
| **r81** | **[pEGF-EGFR2-cbl-EPn] -> cbl + EPn** | **K81=0.0005** |  | **Estimation** |
| **r124** | **[pEGF-EGFR2-STAT3c] + cbl <-> [pEGF-EGFR2-STAT3c-cbl]** | **K124=2** | **K124r=0.005** | **Estimation** |
| **r125** | **[pEGF-EGFR2-STAT3c-cbl] + EPn <-> [pEGF-EGFR2-STAT3c-cbl-EPn]** | **K125=2** | **K125r=0.05** | **Estimation** |
| **r126** | **[pEGF-EGFR2-STAT3c-cbl-EPn] -> STAT3c + cbl + EPn** | **K126=0.0005** |  | **Estimation** |
| **r127** | **[pEGF-EGFR2-PI3K] + cbl <-> [pEGF-EGFR2-PI3K-cbl]** | **K127=0.2** | **K127r=0.005** | **Estimation** |
| **r128** | **[pEGF-EGFR2-PI3K-cbl] + EPn <-> [pEGF-EGFR2-PI3K-cbl-EPn]** | **K128=2** | **K128r=0.05** | **Estimation** |
| **r129** | **[pEGF-EGFR2-PI3K-cbl-EPn] -> PI3K + EPn** | **K129=0.0005** |  | **Estimation** |
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**Nonzero modified species**

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| --- | --- | --- | --- | --- | --- |
| **EGFR** | **1** | **estimation** | **PI3K** | **0.4** | **Estimation** |
| **Ras-GDP** | **0.3** | **Estimation** | **Akt** | **0.2** | **Estimation** |
| **ERK** | **0.8** | **Estimation** | **STAT3c** | **2** | **Estimation** |