**Table S2. Ordinary differential equations of the EGFR-c-MET-PYK2 model.** The reaction rates are given in Supplementary Table 1.

|  |  |  |
| --- | --- | --- |
| **Left-hand Sides** | **Right-hand Sides** | **Initial Conditions (nM)** |
| d[pEGFR]/dt | v1 - v2 | 0.109 |
| d[EGFRub]/dt | v3 - v4 | 6.940 |
| d[PYK2m]/dt | v5 – v6 | 0.622 |
| d[PYK2]/dt | v7 - v8 - v9 + v10 | 9.299 |
| d[pPYK2]/dt | v9 - v10 | 2.510 |
| d[pSTAT3]/dt | v11 - v12 | 1.178 |
| d[cMETm]/dt | v13 - v14 | 0.023 |
| d[cMET]/dt | v15 - v16 - v17 + v18 | 4.672 |
| d[pcMET]/dt | v17 - v18 | 0.502 |
| d[pCbl]/dt | v19 - v20 | 10.476 |
| d[aPTP]/dt | v21 - v22 | 0.494 |
| d[pERK]/dt | v23 - v24 | 0.669 |
| d[STAT3uStattic]/dt | v25 | 0.00 |

Due to the law of conversation, the other model state variables could be calculated using the following algebraic equations:

EGFR(t) = EGFRtot – pEGFR(t) – EGFRub(t),

STAT3(t)=STAT3tot - pSTAT3(t) -STAT3uStattic(t),

Cbl(t)=Cbltot – pCbl(t),

PTP(t)=PTPtot – aPTP(t),

ERK(t)=ERKtot – pERK(t) and

Stattic(t) = Stattictot - STAT3uStattic(t),

where EGFRtot, STAT3tot, Cbltot, PTPtot, ERKtot and Stattictot denote the total concentrations of the corresponding molecules.