**Figure 1 –** **Source Data 2:** Reaction and rates constant involved in signaling pathway of SynGap. Rates were optimized from Oh et al., 2004 and Walkup IV et al., 2015 (Miningou and Blackwell, 2018).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reaction equation |  Kf (nM-1 Sec-1) | Kb (Sec-1) | Kcat (Sec-1) | Reference |
| *CKpCaMCa4 + SynGAP* $\leftrightarrow $ *pSynGAP + CKpCaMCa4* | 3.07E-01 | 5.87E+01 | 6.48E-01 | Miningou and Blackwell, 2018 |
| *Ras1GTP + SynGAP* $\leftrightarrow $ *Ras1GDP + SynGAP* | 8.20E-04 | 8.20E-01 | 2.05E-01 | Miningou and Blackwell, 2018 |
| *Rap1GTP + SynGAP* $\leftrightarrow $ *Rap1GDP + SynGAP* | 3.20E-03 | 3.20E+00 | 8.00E-01 | Miningou and Blackwell, 2018 |
| *RasGTP + pSynGAP* $\leftrightarrow $ *RasGDP + pSynGAP* | 1.12E-03 | 1.11E+00 | 2.79E-01 | Miningou and Blackwell, 2018 |
| *Rap1GTP + pSynGAP* $\leftrightarrow $ *Rap1GDP + pSynGAP* | 6.14E-03 | 6.14E+00 | 1.53E+00 | Miningou and Blackwell, 2018 |
| *pSynGAP* $\leftrightarrow $ *SynGAP* | 1.00E+00 | 0.00E+00 |  | Estimated |
| *pSynGAP* $\leftrightarrow S$*ynGap\_dendrite* | 2.50E-02 | 2.50E-02 |  | Araki et al., 2015 |

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