**Table S4. Summary of Distribution of Accepted Parameter Sets**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Mean (s-1) | Median (s-1) | σ (s-1) | CV |
| **Trafficking** |  |  |  |  |
| kdegr(V·N1·R2) | 9.26 x 10-4 | 6.90 x 10-4 | 9.06 x 10-4 | 0.98 |
| kdegr(V·R2) | 2.72 x 10-5 | 2.80 x 10-5 | 7.58 x 10-6 | 0.28 |
| kdegr(N1) | 1.55 x 10-4 | 4.00 x 10-5 | 1.92 x 10-4 | 1.24 |
| krec4(R2) | 3.73 x 10-3 | 3.70 x 10-3 | 2.93 x 10-4 | 0.08 |
| krec11(N1) | 1.19 x 10-2 | 1.30 x 10-2 | 2.60 x 10-3 | 0.22 |
| k4to11(N1) | 1.65 x 10-2 | 1.60 x 10-2 | 4.18 x 10-3 | 0.25 |
|  |  |  |  |  |
| **Phosphorylation** |  |  |  |  |
| kdp, Y951, surface | 4.986 | 0.0027 | 11.9 | 2.39 |
| kdp, Y1175, surface | 7.267 | 3.97 | 8.94 | 1.23 |
| kdp, Y1214, surface | 0.580 | 0.0118 | 1.35 | 2.33 |
| kdp, Y951, rab45 | 9.523 | 0.0413 | 25.8 | 2.71 |
| kdp, Y1175, rab45 | 0.051 | 0.00172 | 0.184 | 3.61 |
| kdp, Y1214, rab45 | 0.041 | 0.00119 | 0.133 | 3.24 |
|  |  |  |  |  |
| Surface/Internal Ratios: kdp |
| Y951 | 266 | 0.719 | 989 | 3.72 |
| Y1175 | 3440 | 940 | 7750 | 2.25 |
| Y1214 | 64.9 | 6.84 | 190 | 2.93 |
|  |  |  |  |  |
| Y1175/Y1214 | 2760 | 252 | 8810 | 3.19 |

σ: Standard Deviation; CV: coefficient of variation.