**Supplementary Table S1. Generalized two, three, and four receptor models default parameter values applied.**

|  |  |  |
| --- | --- | --- |
| Parameter. | Value | Units |
| Vext | 1.26 x 10-12 [1] | L |
| [L]0 | 1.0 x 10-9 | M |
| R1 | 1000 | molecules |
| R2 | 1000 | molecules |
| R3 | 1000 | molecules |
| kL1 | 1.0 x 106 | M-1 s-1 |
| akL1 | 1.0 x 10-7 | s-1 |
| kL2 | 1.0 x 106 | M-1 s-1 |
| akL2 | 1.0 x 10-7 | s-1 |
| kL3 | 1.0 x 106 | M-1 s-1 |
| akL3 | 1.0 x 10-7 | s-1 |
| kL4 | 1.0 x 106 | M-1 s-1 |
| akL4 | 1.0 x 10-7 | s-1 |
| kdim | 8.3 x 10-7 [2] | molecule-1 s-1 |
| akdim | 1.0 [2] | s-1 |

**Supplementary Table S2. Generalized two, three, and four receptor model parameter variation values applied**

|  |  |
| --- | --- |
| Two Receptor Model | |
| Parameter | Ratios |
| R1 / R2 | 0.1—10.0 |
| kL1 / kL2 | 10-3—10+3 |
| Three Receptor Model | |
| Parameter | Ratios |
| R1:R2:R3 | 1:1:1, 1:2:1, 2:1:1 |
| kL1 / kL2 | 10-3—10+3 |
| kL2 / kL3 | 10-2—10+2 |
| Four Receptor Model | |
| Parameter | Ratios |
| R1:R2:R3:R4 | 1:1:1:1, 1:2:1:1, 1:2:2:2, 1:10:1:1, 1:10:2:1, 1:10:2:2, 2:1:1:1, 2:2:1:1, 2:10:1:1, 2:10:2:2 |
| kL1/kL2 | 10-3—10+3 |

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