**Table S1 Description of Simulation Parameters**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter description** | | | **Symbol** | | | | **Value / Range of values / Calculation** | |
| *Monte Carlo parameters* | | | | |  | |  | |
|  | Lattice step size | | |  | |  | |
|  | Simulation box | | |  | |  | |
|  | Observation area | | |  | |  | |
|  | Total simulated time | | |  | |  | |
|  | Number of molecules in frame for FCS | | |  | |  | |
| *Parameters to match simulation to experimental conditions* | | | | | | | | |
|  | Free diffusion coefficient | | | |  | | in supported lipid bilayer ;  on cells | |
|  | 2D Gaussian width of PSF | | | |  | |  | |
|  | Camera pixel size | | | |  | |  | |
|  | Effective waist of detection spot | | | |  | |  | |
|  | Camera frame time | | | |  | | 1.5ms; or 1000 MCS steps | |
|  | Number of molecules in each frame | | | |  | |  | |
| *Specific parameters for nano-domains* | | | | |  | |  | |
|  | Edge length of domains | | | |  | |  | |
|  | Fraction of area covered by domains | | | |  | |  | |
|  | Relative diffusion coefficient inside domains | | | |  | | ; | |
|  | Probability of entering a domain | | | |  | |  | |
|  | Probability of exiting a domain | | | |  | |  | |
| *Specific parameters for membrane fences* | | | | |  | |  | |
|  | | Spacing of square-grid fences | | |  | |  | |
|  | | Hopping over probability for molecules | | |  | |  | |
| *Simulation observables* | | | | |  | |  | |
|  | Partition of molecules into domains | | | |  | | (molecules inside domains) / total molecules | |
|  | Confinement strength | | | |  | |  | |
|  | Effective diffusion coefficient | | | |  | |  | |
|  | Time-axis intercept of the FCS diffusion law | | | |  | | y-intercept | |