**S1 Table. List of dimensionless parameters.**

|  |  |
| --- | --- |
| **Mechanical properties** | |
| Cell Mobility |  |
| Adhesion force at BM |  |
| Adhesion force at AP |  |
| Diffuse interface thickness |  |

|  |  |
| --- | --- |
| **Source terms** | |
| Stem cell division rate |  |
| TDs death rate |  |

**For Figures 3, 4, and 5**

|  |  |
| --- | --- |
| **Feedback control** | |
| Minimum CP self-renewal rate |  |
| Maximum CP self-renewal rate |  |
| Positive feedback gain |  |
| Negative feedback gain |  |

|  |  |
| --- | --- |
| **Feedback factors** | |
| Production rate of F by CPs |  |
| Production rate of F by TDs |  |
| Natural decay rate of F |  |
| Diffusivity of F |  |
| Production rate of G by CPs |  |
| Production rate of G by TDs |  |
| Natural decay rate of G |  |
| Uptake rate of G by the stroma |  |
| Diffusivity of G |  |

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| --- | --- |
| **Exogenous sources** | |
| Exogenous F source starts from |  |
| Exogenous F source ends at |  |
| Exogenous F production rate |  |
| Magnitude of exogenous F |  |
| Exogenous G source starts from |  |
| Exogenous G source ends at |  |
| Exogenous G production rate |  |
| Magnitude of exogenous G |  |

**For Figure 7 & 8**

|  |  |
| --- | --- |
| **Source terms** | |
| Stem cell division rate |  |
| TDs death rate |  |

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| --- |
| **Feedback control** |

|  |  |
| --- | --- |
|  |  |
| Maximum CP self-renewal rate |  |
| Positive feedback gain  (Figure 7A-D) |  |
| Negative feedback gain  (Figure 7A-D) |  |
| Positive feedback gain  (Figure 7E-H) |  |
| Negative feedback gain  (Figure 7E-H) |  |
| Positive feedback gain  (Figure 8A – N, 8V, 8W) |  |
| Negative feedback gain  ( Figure 8A – N, 8V, 8W ) |  |
| Positive feedback gain  (Figure 8O – U, 8V, 8W ) |  |
| Negative feedback gain  (Figure 8O – U, 8V, 8W ) |  |

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| --- | --- |
| **Feedback factors** | |
| Production rate of F by CPs |  |
| Production rate of F by TDs |  |
| Natural decay rate of F |  |
| Diffusivity of F |  |
| Production rate of G by CPs |  |
| Production rate of G by TDs |  |
| Natural decay rate of G |  |
| Uptake rate of G by the stroma |  |
| Diffusivity of G |  |

|  |  |
| --- | --- |
| **Exogenous sources** | |
| Exogenous F source starts from |  |
| Exogenous F source ends at  (Figure 7F) |  |
| Exogenous F production rate |  |
| Magnitude of exogenous F |  |