**S2 Table** – List of model variables and their values in the steady state achieved with an adequate iron diet (*vDiet*=3.4484×10$^{-3}$ M d$^{-1}$ and *fDiet*=1). This is also the initial condition for most of the simulations.

| Variable | Status[1] | Value | Unit | Description |
|---|---|---|---|---|
| [*FeRBC*] | † | 23 | *mM* | Concentration of iron in RBC (iron mass = 0.997 *mg*) |
| [*FeDuo*] | ▲ | 10.0222 | *mM* | Concentration of iron in duodenum (iron mass = 0.0218 *mg*) |
| [*FeSpleen*] | ▲ | 2.26838 | *mM* | Concentration of iron in spleen (iron mass = 0.00823 *mg*) |
| [*FeBM*] | ▲ | 2.08051 | *mM* | Concentration of iron in bone marrow (iron mass = 0.0257 *mg*) |
| [*FeLiver*] | † | 1.3 | *mM* | Concentration of iron in liver (iron mass = 0.0843 *mg*) |
| [*FeRest*] | † | 0.40176 | *mM* | Concentration of iron in "rest of body" (iron mass = 0.444 *mg*) |
| [*Fe2Tf*] | † | 0.0189625 | *mM* | Concentration of Fe2Tf species (2 Fe$^{3+}$ bound to Tf) (iron mass = 0.00270 *mg*) |
| [*Tf*] | † | 0.0116103 | *mM* | Concentration of free transferrin |
| [*Fe1Tf*] | † | 8.12714 | *µM* | Concentration of Fe1Tf species (1 Fe$^{3+}$ bound to Tf) (iron mass = 0.0006 *mg*) |
| [*NTBI*] | † | 40 | *nM* | Concentration of NTBI (iron mass = 2.893 *ng*) |
| [*Hepcidin*] | † | 23.00092 | *nM* | Concentration of Hepcidin |
| [*EPO*] | † | 2.4267 | *pM* | Concentration of Erythropoietin |
| [*All tracer species*] | | 0 | *mM* | Concentration of all tracer species (FeDuo*, FeLiver*, FeRBC*, FeSpleen*, FeRest*, Fe1Tf*, Fe2Tf*, Fe2Tf**, NTBI*) |
| [*FePlasma*] | ○ | 0.0460921 | *mM* | Total concentration of iron in plasma, sum of *NTBI* with all Tf-bound iron (iron mass = 0.00329 *mg*) |
| [*TotalTf*] | ○ | 0.0386999 | *mM* | Total concentration of transferrin with and without iron bound (2.945 *mg/ml*) |
| [*TotalFe*] | ○ | 1.59923 | *mM* | Total iron concentration in the body (iron mass = 1.6 *mg*) |
| *Tf$_{sat}$* | ○ | 59.499 | *%* | Transferrin saturation (percentage of iron binding sites occupied in Tf) |
| *FeRBC transition time* | ○ | 33.3 | *d* | Time for iron to transition through the RBC compartment (essentially the same as the average RBC lifetime) |

[1] – items marked with a triangle (▲) were fit to the data, those marked with a dagger (†) were determined by steady state equations, and those marked with an open circle (○) were determined by other data or assumptions.