S4 Table. Optimized parameter set obtained from the Jurkat T Cell Model fitting used for the seeding the initial population of parameter values for the genetic algorithm optimization of the Young CD8$^+$ T Cell Model to experimental data.

Parameter	Jurkat T cells
β_i*	0.056
β_{er}*	0.049
β_{mit}	0.033
ρ_{er}	0.015
ρ_{mit}	0.08
k_{PLCact}	0.0033 s^{-1}
$k_{PLCdeact}$	0.042 s^{-1}
$k_{IP3prod}$	0.48 μM^{-1} s^{-1}
k_{IP3deg}*	0.010 s^{-1}
V_{IP3}	4.0 s^{-1}
K_{IP3}	0.57 μM
K_{act}	0.13 μM
A	0.079
K_{inh}	1 μM
K_{IP3inh}*	0.82 μM
K_{ERleak}*	0.0043 s^{-1}
V_{serca}*	112.75 μM s^{-1}
K_{serca}	0.43 μM
V_{mitin}	388.6 μM s^{-1}
K_{mitin}	0.81 μM
V_{mitout}*	188.9 μM s^{-1}
K_{mitout}*	4.03 μM
V_{crac}	2.4 μM s^{-1}
K_{soc}*	363.5 μM
K_{stim}	178.1 μM

K_{PMleak}	1.1e-6 s^{-1}
V_{pmca}*	2.14 μM s^{-1}
K_{pmca}	0.11 μM