

S2 Table. Thelen Muscle Parameters for the Skeletal Muscle Model. These parameters were used for simulations of the EDL mouse muscle model.

Muscle Length	l_M	0.0117 m
Optimal isometric force	F_0^M	0.507 N
Maximum optimal fiber length	l_0^M	$0.44l_M$ m
Tendon slack length	l_s^T	0.0129 m
Passive muscle strain	ε_0^M	0.006
Passive F-L shape factor	k_{PE}	4.0
Exponential shape factor	k_{toe}	3
Tendon strain due to F_0^M	ε_0^T	0.033
Linear shape factor	k_{lin}	$1.712/\varepsilon_0^T$
Tendon strain (linear)	ε_{toe}^T	$0.609\varepsilon_0^T$
Normalized tendon force (linear)	\bar{F}_{toe}^T	0.333333
Shape factor for the Gaussian active F-L	γ	0.5
Shape factor for the F-V	A_f	0.3
Normalized muscle force during lengthening	\bar{F}_{len}^M	1.8