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Supplemental Information

Microtubules Provide a Viscoelastic Resistance to Myocyte Motion

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Supplementary Table 1: Values for calcium and contractility

Contractility Transient	Control		Colchicine		P	significance
	Mean	SE	Mean	SE		
Resting Sarcomere Length (μm)	1.826	0.008	1.829	0.01	0.997	
Peak % shortening	9.38	0.507	11.94	0.651	0.003	**
Departure Velocity ($\mu\text{m/s}$)	-3.50	0.264	-5.06	0.374	0.001	***
Return Velocity ($\mu\text{m/s}$)	2.53	0.198	3.39	0.199	0.003	**
t to peak 90% (ms)	81.2	3.0	74.9	1.9	0.07	
t to peak 50% (ms)	34.2	1.3	30.2	1.2	0.029	*
t to baseline 90% (ms)	241.1	11.6	221.7	9.9	0.206	
t to baseline 50% (ms)	147.4	9.2	144.8	8.2	0.836	
Calcium Transient	Control		Colchicine		P	
	Mean	SE	Mean	SE		
Amplitude (F/F_0)	6.18	0.29	6.11	0.28	0.853	
Time to 50% Rise (ms)	18.09	0.43	18.19	0.51	0.889	
Time to 90% Rise (ms)	27.91	1.04	29.71	1.33	0.296	
Time to 50% Decay (ms)	192.4	4.8	192.7	3.2	0.958	
Time to 90% Decay (ms)	426.7	11.9	406.7	10.1	0.201	

Supplementary Movie 1: Nanoindentation of rat cardiomyocyte. AdV-EMTB 3x GFP transfected in culture for 48 h enabled MT imaging during nanoindentation. During indentation MTs deform significantly, while sarcomeres are not stretched. Two color overlay shows initial frame (pre-indentation) in blue and subsequent frames (during indentation) in orange. Colocalization appears white.