

Figure S1: Endothelial cells derived from Cx37^{-/-} mouse skeletal muscle proliferate from time of isolation whereas WT-derived endothelial cells initially proliferate at slower rate. Despite identical procedures and similar number of cells isolated, Cx37^{-/-} endothelial cells rapidly proliferate once established in culture. However, proliferation of endothelial cells from WT mice is delayed, likely until the connexin expression profile changes.

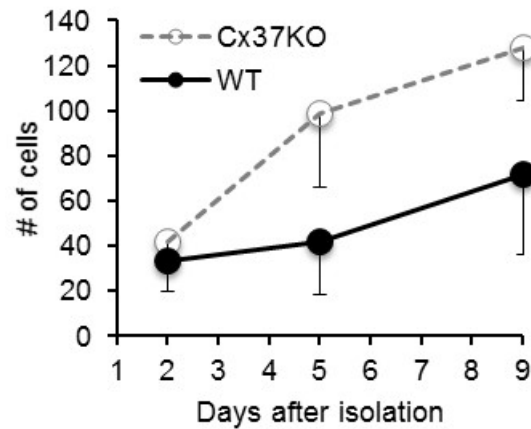


Figure S2: Cx37-S3A3, -S7A7 and -S7D7 expression levels. A&C: Western blots of Cx37-GST fusion protein and total cell protein isolated from iRin37-S3A3 (**A**), and iRin37-S7A7 and iRin37-S7D7 cells (**C**) stimulated with dox for 24 h. Cx37-GST runs as a triplet; the intensity of all three bands in the lanes loaded with 0.25, 0.5, 1 and 2 pmoles was used to create the standard curves illustrated in (**B&D**). The intensity of a similar area encompassing the sample bands was compared against the standard curve to determine sample content.

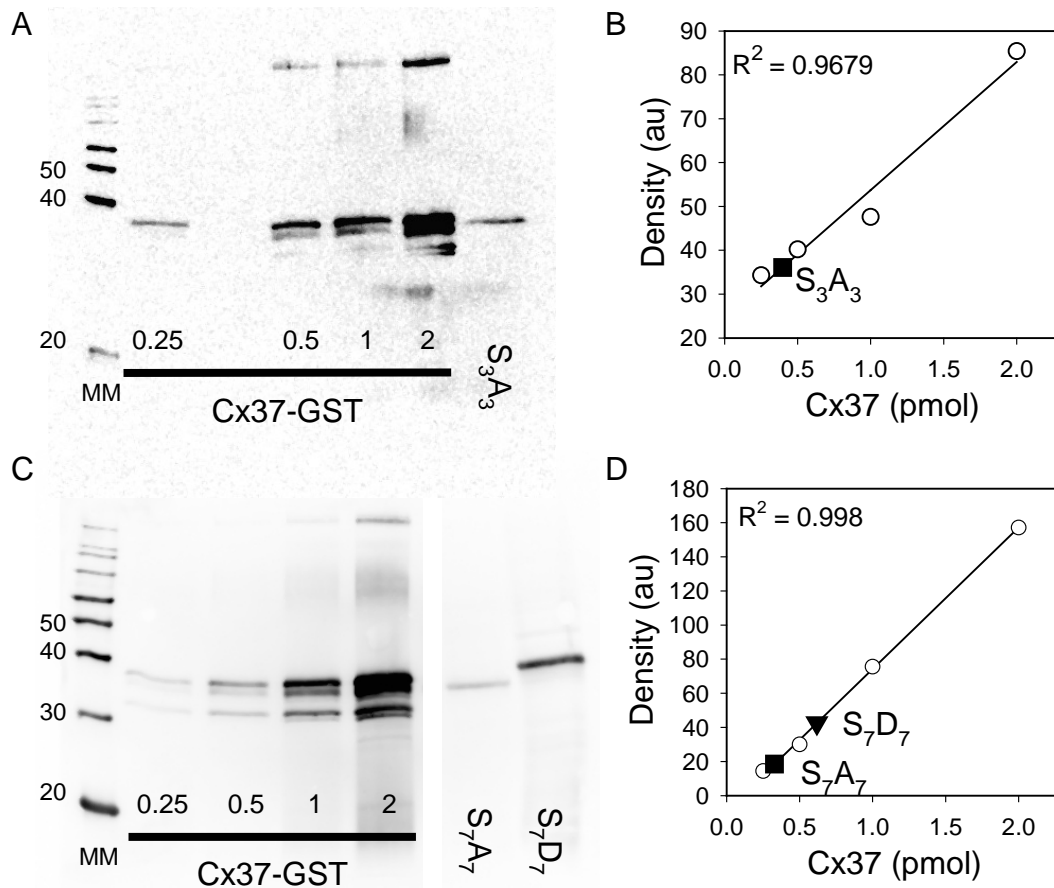


Figure S3: Serum deprivation differentially affects the S- and G₂-phase distributions of Cx37-WT, -S₃A₃ and -S₇A₇ expressing iRin cells. A&B: The percentage of cells in S-phase is increased by serum deprivation in Cx37-S₃A₃ and Cx37-S₇A₇ expressing cells but not Cx37-WT expressing cells. For both these Cx37 isoforms, the decline in S-phase cells represents movement through the cell cycle into G₁ where they accumulate over the displayed time frame. **C&D:** The percentage of cells in G₂ did not differ in serum deprived vs. serum containing conditions for any of these Cx37 isoforms. (G₁ data and sample sizes are presented in figures 4 & 5 of the main text).

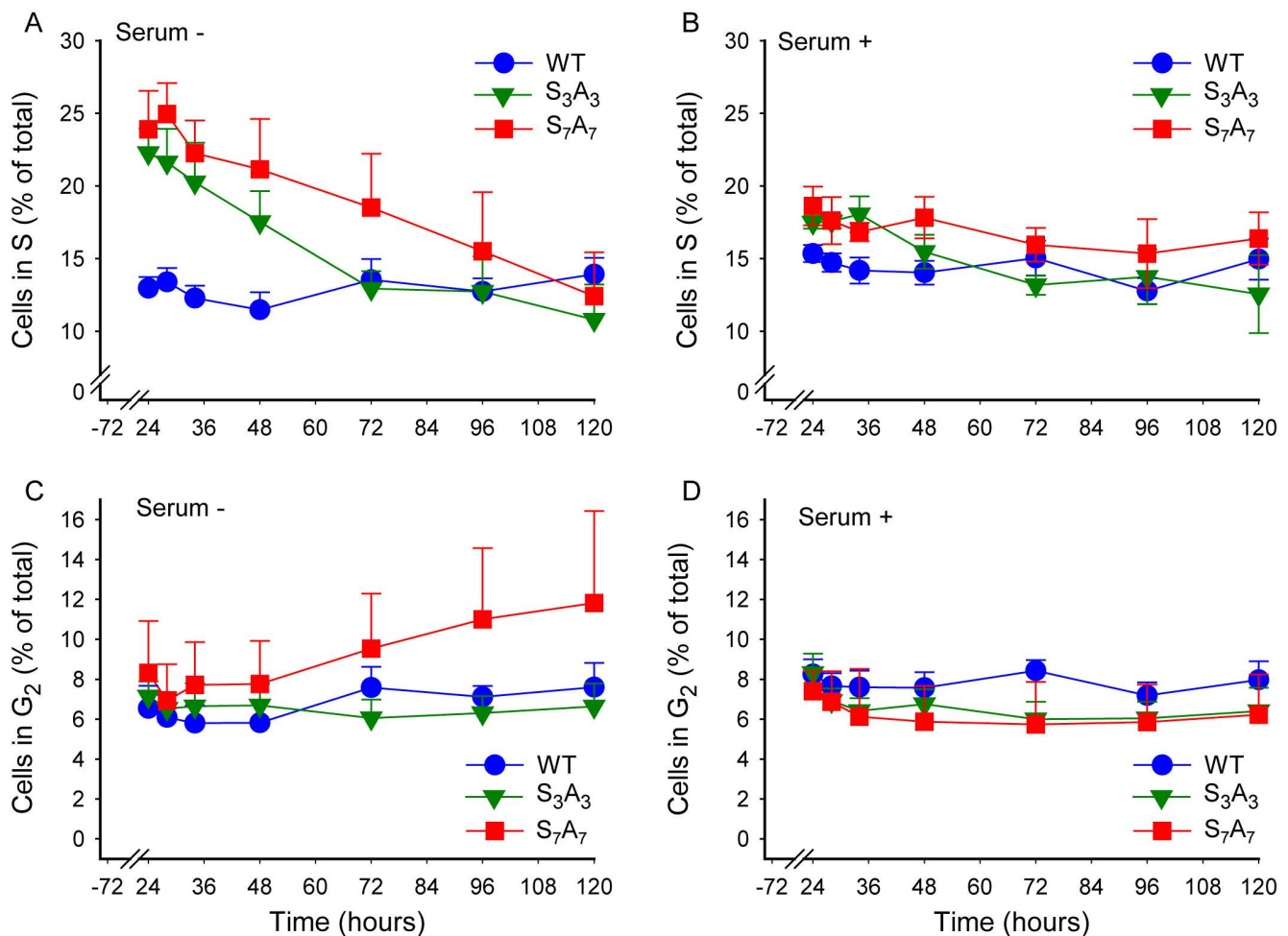


Figure S4: Primers used to generate mutants. Mutations were induced sequentially, leading to the constructs indicated right column.

Mutation	Primer sequence	Construct
S302A	F-5'gagagactgaccgctccagactccc3' R-5'gggaggctggaagcggcagctctc3'	
S302, 328A	F-5'ccaacagctctgcagccaagaagcagtatgtg3' R-5'acacatactgcttcttgctgcagagctgttg3'	
S275, 302, 328A	F-5'gggaccctctgccccaccgtgtc3' R-5'gacacgggtgggagaggggtccc3'	Cx37-S ₃ A ₃
S275, 285, 302, 328A	F-5'cctacaacgggctcgtccactgagcagaac3' R-5'gttctgctcagtggaagcagcccgtttagg3'	
S275, 285, 302, 319, 328A	F-5'cagggtggccgaaaggcacctagccgccccaac3' R-5'gttggggcggctagggtccttcggccaccctg3'	
S275, 285, 302, 319, 321, 325, 328A	F-5'ggcacctgcccccccaacgcctctg3' R-5'cagaggcgtggggcgggcaggtgcc3'	Cx37-S ₇ A ₇
S275D	F-5'catgggcgagggaccctctgatccaccgtgtcccactac3' R-5'gtagggtgggacacgggtggatcagagggctcctcgcccag3'	
S275, 319D	F-5'cagggtggccgaaaggatcctagccgccccaac3' R-5'gttggggcggctaggatccttcggccaccctg3'.	
S275, 319, 328D	F-5'ccaacagctctgcagacaagaagcagtatg3' R-5'catactgcttctgtctgcagagctgttggg3'	
S275, 285, 319, 328D	F-5'cctacaacgggctcgtccactgagcagaac3' R-5'gttctgctcagtgagtcgagcccgtttagg3'	
S275, 285, 302, 319, 328D	F-5'cacagaggagagactgaccgactccagacctccccatttg3' R-5'caaatggggaggctctggagtcggtcagctctcctctgtg3'	
S275, 285, 302, 319, 321, 325, 328D	F-5'gccgaaaggatcctgaccgccccaacgactctgcagacaa3' R-5'ctgtctgcagagtcgtggggcggcaggatccttcggc3'	Cx37-S ₇ D ₇