



Table S1: Molecular contacts between phospholamban (PLN) and SERCA.

PLN residues	SERCA residues		
	M2	M6	M9
Ala24			Trp932
Ala27		Phe809	Trp932
Leu28			Trp932
Ile33	Trp107		
Asn34		Gly801, Thr805	
Phe35			Leu939
Ile38		Leu797	Leu943
Leu42		Trp794	
Ile45			Leu953, Ile956
13 contacts: 1 with M2, 5 with M6, and 7 with M9			

*Based on the reported crystal structure of the SERCA-PLN complex (PDB code 4KYT).

Table S2: Molecular contacts between sarcolipin (SLN) and SERCA.

SLN residues	SERCA residues		
	M2	M6	M9
Leu8		Ala806	
Asn11		Gly801, Thr805	
Phe12		Leu802	Leu939
Val14	Trp107		
Val15		Leu797	Leu943
Val19		Trp794	Leu946, Leu953
Ile22	Val93, Leu96		
Trp23			Leu953
Val26			Pro952
Tyr29	Phe88		
15 contacts: 4 with M2, 5 with M6, and 6 with M9			

*Based on the reported crystal structures of the SERCA-SLN complex (PDB codes 3W5A and 4H1W).

Table S3: Molecular contacts between dwarf open reading frame (DWORF) and SERCA.

DWORF residues	SERCA residues		
	M2	M6	M9
His11			Ser936
Val14	Trp107	Leu802	
Ile16	Val104, Trp107		
Ile23	Ile103		
Val24			Leu953
Ile27			Ile956, Phe957
Ile28			Leu953
Ile30	Val89, Phe92, Val93		
Tyr31			Pro952, Ile956
Phe34	Phe88, Phe92		
17 contacts: 9 with M2, 1 with M6, and 7 with M9			

*Based on previously published molecular model of the SERCA-DWORF complex (Fisher et al., *eLife*, 2021).

Table S4: Molecular contacts between myoregulin (MLN) and SERCA.

MLN residues	SERCA residues		
	M2	M6	M9
Glu20			Trp932
Arg24		Thr805	Trp932
Leu26	Trp107		
Lys27	Gln108		
Ile28			Leu939
Phe30	Ile103		
Val34	Leu96		
Ile39			Leu953, Phe957
Tyr41	Phe88, Phe92		
12 contacts: 6 with M2, 1 with M6, and 5 with M9			

*Based on the molecular model shown in Figure 6.

Table S5: Molecular contacts between another-regulin (ALN) and SERCA.

ALN residues	SERCA residues		
	M2	M6	M9
His42	Trp107, Asn111		
Leu46	Ile103, Trp107		
Asp47		Leu802	
Leu48		Leu802	
Phe51			Leu943, Leu946
Phe54	Leu96	Trp794	Phe957
Val57	Leu96		
Phe61	Val89, Phe88, Phe92		
Leu65	Val89		
18 contacts: 10 with M2, 3 with M6, and 3 with M9			

*Based on the molecular model shown in Figure 8.