

Supplemental Materials

Cardiac Myosin Binding Protein-C Autoantibodies are Potential Early Indicators of Cardiac Dysfunction and Patient Outcome in Acute Coronary Syndrome

Brief Title: cMyBP-C Autoantibodies in Cardiovascular Disease

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Supplemental Tables

Supplementary Table 1. Clinical and Demographic Characteristics of Donors	
N	141
Gender (N %)	
Female	72 (61.01%)
Male	46 (38.98%)
Age (Mean, SD)	37.52 (15.94)
Diabetes (N %)	0 (0%)
Hypertension (N %)	0 (0%)
LVEF (Mean, SD)	62.70 (3.97)

Supplementary Table 2. Clinical and Demographic Associations Across AAbs to N-terminal-cMyBP-C Peptides for Patients with Dilated Cardiomyopathy			
	C0-C1f-AAb⁻	C0-C1f-AAb⁺	P-value
N	71	2	
Gender (N %)			0.41
Female	16 (22.54%)	1 (50%)	
Male	55 (77.46%)	1 (50%)	
Age (Median, IQR)	59 (47 – 68)	56.50 (37 – 76)	0.92
NYHA Functional Class (N %)			0.42
I	4 (5.71%)	0 (0%)	
II	13 (18.57%)	0 (0%)	
III	42 (60%)	1 (50%)	
IV	11 (15.71%)	1 (50%)	
LVEF (Median, IQR)	25 (20 – 30)	20 (15 – 25)	0.33
	C0-C3-AAb⁻	C0-C3-AAb⁺	P-value
N	70	3	
Gender (N %)			0.55
Female	16 (22.86%)	1 (33.33%)	
Male	54 (77.14%)	2 (66.67%)	
Age (Median, IQR)	59 (47 – 68)	53 (37 – 76)	0.87
NYHA Functional Class (N %)			0.59
I	4 (5.80%)	0 (0%)	
II	13 (18.84%)	0 (0%)	
III	41 (59.42%)	2 (66.67%)	
IV	11 (15.94%)	1 (33.33%)	
LVEF (Median, IQR)	25 (20 – 30)	25 (15 – 28)	0.59
	C3-C6-AAb⁻	C3-C6-AAb⁺	
N	63	10	
Gender (N %)			0.99
Female	15 (23.81%)	2 (20%)	
Male	48 (76.19%)	8 (80%)	
Age (Median, IQR)	59 (50 – 69)	52.50 (40 – 66)	0.43
NYHA Functional Class (N %)			0.06
I	4 (6.45%)	0 (0%)	
II	9 (14.52%)	4 (40%)	
III	40 (64.52%)	3 (30%)	
IV	9 (14.52%)	3 (30%)	
LVEF (Median, IQR)	25 (20 – 30)	25.50 (20 – 29)	0.84

* From Wilcoxon Rank-Sum Test Statistic, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 3. Clinical and Demographic Associations Across AAbs to C-terminal-cMyBP-C Peptides and FL-cMyBP-C for Patients with Dilated Cardiomyopathy			
	C6-C8-AAb⁻	C6-C8-AAb⁺	P-value
N	72	1	
Gender (N %)			0.23
Female	16 (22.22%)	1 (100%)	
Male	56 (77.78%)	0 (0%)	
Age (Median, IQR)	59 (47 – 67.50)	76 (76 – 76)	0.13
NYHA Functional Class (N %)			0.22
I	4 (5.63%)	0 (0%)	
II	13 (18.31%)	0 (0%)	
III	43 (60.56%)	0 (0%)	
IV	11 (15.49%)	1 (100%)	
LVEF (Median, IQR)	25 (20 – 30)	25 (25 – 25)	0.98
	C8-C10-AAb⁻	C8-C10-AAb⁺	
N	48	25	
Gender (N %)			0.49
Female	10 (20.83%)	7 (28%)	
Male	38 (79.17%)	18 (72%)	
Age (Median, IQR)	58 (47 – 70)	59 (51 – 66)	0.92
NYHA Functional Class (N %)			0.32
I	3 (6.38%)	1 (4%)	
II	6 (12.77%)	7 (28%)	
III	31 (65.96%)	12 (48%)	
IV	7 (14.89%)	5 (20%)	
LVEF (Median, IQR)	25 (20 – 30)	25 (20 – 29)	0.96
	FL-cMyBP-C-AAb⁻	FL-cMyBP-C-AAb⁺	
N	62	11	
Gender (N %)			0.71
Female	14 (22.58%)	3 (27.27%)	
Male	48 (77.42%)	8 (72.73%)	
Age (Median, IQR)	59.50 (51 – 69)	51 (38 – 66)	0.20
NYHA Functional Class (N %)			0.12
I	3 (4.92%)	1 (9.09%)	
II	9 (14.75%)	4 (36.36%)	
III	37 (60.66%)	6 (54.55%)	
IV	12 (19.67%)	0 (0%)	
LVEF (Median, IQR)	25 (20 – 30)	20 (15 – 29)	0.30

*From Wilcoxon Rank-Sum Test Statistic, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 4. Clinical and Demographic Associations Across AAbs to N-terminal-cMyBP-C Peptides for Patients with Hypertrophic Cardiomyopathy			
	C0-C1f-AAb⁻	C0-C1f-AAb⁺	P-value
N	211	3	
Gender (N %)			0.99
Female	88 (41.71%)	1 (33.33%)	
Male	123 (58.29%)	2 (66.67%)	
Age (Median, IQR)	54 (42 – 65)	52 (45 - 58)	0.81
NYHA Functional Class (N %)			0.15
I	99 (48.06%)	0 (0%)	
II	57 (27.67%)	2 (66.67%)	
III	49 (23.79%)	1 (33.33%)	
IV	1 (0.49%)	0 (0%)	
LVEF (Median, IQR)	65 (60 – 70)	65 (45 – 70)	0.54
	C0-C3-AAb⁻	C0-C3-AAb⁺	P-value
N	212	2	
Gender (N %)			0.51
Female	89 (41.98%)	0 (0%)	
Male	123 (58.02%)	2 (100%)	
Age (Median, IQR)	53.50 (42.03 – 65)	51.50 (45 – 58)	0.84
NYHA Functional Class (N %)			0.28
I	99 (47.83%)	0 (0%)	
II	58 (28.02%)	1 (50%)	
III	49 (23.67%)	1 (50%)	
IV	1 (0.48%)	0 (0%)	
LVEF (Median, IQR)	65 (60.05 – 70)	57.50 (45 – 70)	0.57
	C3-C6-AAb⁻	C3-C6-AAb⁺	
N	190	24	
Gender (N %)			0.67
Female	80 (42.11%)	9 (37.50%)	
Male	110 (57.89%)	15 (62.50%)	
Age (Median, IQR)	54.77 (42.06 – 65)	47 (42.50 – 62)	0.35
NYHA Functional Class (N %)			0.09
I	93 (49.73%)	6 (27.27%)	
II	48 (25.67%)	11 (50%)	
III	45 (24.06%)	5 (22.73%)	
IV	1 (0.53%)	0 (0%)	
LVEF (Median, IQR)	65 (60 – 70)	67.95 (60.50 – 71.25)	0.33

* From Wilcoxon Rank-Sum Test Statistic, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 5. Clinical and Demographic Associations Across AAbs to C-terminal-cMyBP-C Peptides and FL-cMyBP-C for Patients with Hypertrophic Cardiomyopathy			
	C6-C8-AAb⁻	C6-C8-AAb⁺	P-value
N	204	10	
Gender (N %)			0.20
Female	87 (42.65%)	2 (20%)	
Male	117 (57.35%)	8 (80%)	
Age (Median, IQR)	54 (42.67 – 65)	45 (28 – 58)	0.29
NYHA Functional Class (N %)			0.52
I	96 (48.24%)	3 (30%)	
II	55 (27.64%)	4 (40%)	
III	47 (23.62%)	3 (30%)	
IV	1 (0.50%)	0 (0%)	
LVEF (Median, IQR)	65 (60 – 70)	72.50 (66.15 – 75)	0.04
	C8-C10-AAb⁻	C8-C10-AAb⁺	P-value
N	136	78	
Gender (N %)			0.30
Female	53 (38.97%)	36 (46.15%)	
Male	83 (61.03%)	42 (53.85%)	
Age (Mean, SD)	51.53 (16.95)	54.67 (13.96)	0.17
NYHA Functional Class (N %)			0.14
I	69 (51.49%)	30 (40%)	
II	38 (28.36%)	21 (28%)	
III	26 (19.40%)	24 (32%)	
IV	1 (0.75%)	0 (0%)	
LVEF (Mean, SD)	65.70 (7.80)	64.85 (8.40)	0.48
	FL-cMyBP-C-AAb⁻	FL-cMyBP-C-AAb⁺	
N	206	8	
Gender (N %)			0.72
Female	85 (41.26%)	4 (50%)	
Male	121 (58.74%)	4 (50%)	
Age (Median, IQR)	54 (42.06 – 65)	50 (41.50 – 70.26)	0.82
NYHA Functional Class (N %)			0.56
I	97 (48.02%)	2 (28.57%)	
II	56 (27.72%)	3 (42.86%)	
III	48 (23.76%)	2 (28.57%)	
IV	1 (0.50%)	0 (0%)	
LVEF (Median, IQR)	65 (60.10 – 70)	63 (60 – 67.35)	0.24

* From Wilcoxon Rank-Sum Test Statistic, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 6. Clinical and Demographic Associations Across C0-C1f-AAb Status for Patients with Acute Coronary Syndrome (ACS)			
	C0-C1f-AAb⁻	C0-C1f-AAb⁺	P-value
N	619	9	
Gender (N %)			0.12
Female	170 (27.46%)	5 (55.56%)	
Male	449 (72.54%)	4 (44.44%)	
Age (Mean, SD)	65 (55 – 74)	65 (47 – 67)	0.69
LVEF (Median, IQR)	48 (40 – 55)	45 (41 – 53)	0.94
ACS (N %)			0.65
STEMI	353 (57.31%)	4 (44.44%)	
NSTEMI	177 (28.73%)	4 (44.44%)	
Unstable Angina	86 (13.96%)	1 (11.11%)	
Atrial Fibrillation (N %)	20 (3.23%)	0 (0%)	0.99
Ventricular Fibrillation (N %)	10 (1.62%)	0 (0%)	0.99
Prior AMI (N %)	74 (11.95%)	2 (22.22%)	0.30
Prior PCI (N %)	78 (12.60%)	1 (11.11%)	0.99
Prior CABG (N %)	51 (8.24%)	0 (0%)	0.99
Family History (N %)	118 (19.06%)	1 (11.11%)	0.99
SBP (Mean, SD)	140 (120 – 155)	130 (120 – 140)	0.25
Hypertension (N %)	250 (42.96%)	1 (11.11%)	0.09
Hypotension (N %)	17 (2.75%)	0 (0%)	0.99
Diabetes (N %)	131 (21.16%)	0 (0%)	0.22
Creatinine, mg/dL (Median, IQR)	0.91 (0.77 – 1.12)	0.87 (0.85 – 0.97)	0.80
BNP Baseline Measure, pg/mL (Median, IQR)	130.50 (55.50 – 357.50)	91 (49 – 211)	0.47
BNP Measure on Day 1, pg/mL (Median, IQR)	237 (127 – 511)	111.50 (44.5– 306)	0.15
CKMB Baseline Measure, ng/mL (Median, IQR)	8.97 (3.80 – 36.71)	17.13 (2.90– 76.83)	0.69
CKMB Measure on Day 1, ng/mL (Median, IQR)	27.79 (5.65 – 73.50)	16.72 (11.4 – 29.5)	0.67
CRP, mg/L (Median, IQR)	3.57 (1.55 – 9.79)	2.74 (0.86 – 2.86)	0.06
Myoglobin Baseline Measure, ng/mL (Median, IQR)	130 (60.40 – 387.70)	164.7 (100.9 – 499.1)	0.49
Myoglobin Measure on Day 1, ng/mL (Median, IQR)	89.86 (55.82 – 178.50)	55.39 (41.92 – 101.57)	0.16
NTproBNP Baseline Measure, pg/mL (Median, IQR)	505 (135 – 1,839)	106 (61 – 359)	0.05[‡]
NTproBNP Measure on Day 1, pg/mL (Median, IQR)	1,496 (544 – 3,434)	342 (75 – 3,637)	0.17
NTproBNP Measure on 6 Months, pg/mL (Median, IQR)	258 (98 – 693)	498 (389 – 2,426)	0.13
TnI Baseline Measure, ng/mL (Median, IQR)	0.54 (0.04 – 3.66)	0.95 (0.00 – 2.92)	0.79
TnI Measure on Day 1, ng/mL (Median, IQR)	7.69 (0.96 – 26.07)	5.22 (0.90 – 8.81)	0.31

*From Wilcoxon Rank Sum Test, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 7. Clinical and Demographic Associations Across C0-C3-AAb Status for Patients with Acute Coronary Syndrome (ACS)			
	C0-C3-AAb⁻	C0-C3-AAb⁺	P-value
N	628	0	
Gender (N %)			
Female	175 (27.87%)		
Male	453 (72.13%)		
Age (Mean, SD)	63.61 (13.04)		
LVEF (Mean, SD)	47.12 (11.37)		
ACS (N %)			
STEMI	357 (57.12%)		
NSTEMI	181 (28.96%)		
Unstable Angina	87 (13.92%)		
Atrial Fibrillation (N %)	20 (3.18%)		
Ventricular Fibrillation (N %)	10 (1.59%)		
Prior AMI (N %)	76 (12.10%)		
Prior PCI (N %)	79 (12.58%)		
Prior CABG (N %)	51 (8.12%)		
Family History (N %)	119 (18.95%)		
SBP (Mean, SD)	137.42 (28.09)		
Hypertension (N %)	251 (42.47%)		
Hypotension (N %)	17 (2.71%)		
Diabetes (N %)	131 (20.86%)		
Creatinine, mg/dL (Mean, SD)	1.03 (0.72)		
BNP Baseline Measure, pg/mL (Mean, SD)	344.85 (576.93)		
BNP Measure on Day 1, pg/mL (Mean, SD)	444.05 (562.02)		
CKMB Baseline Measure, ng/mL (Mean, SD)	32.75 (57.36)		
CKMB Measure on Day 1, ng/mL (Mean, SD)	64.88 (96.27)		
CRP, mg/L (Mean, SD)	14.91 (36.19)		
Myoglobin Baseline Measure, ng/mL (Mean, SD)	385.13 (626.71)		
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	194.24 (342.46)		
NTproBNP Baseline Measure, pg/mL (Mean, SD)	2,110.44 (4,808.45)		
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	3,310.96 (5,334.03)		
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	714.87 (1,692.66)		
TnI Baseline Measure, ng/mL (Mean, SD)	4.08 (8.99)		
TnI Measure on Day 1, ng/mL (Mean, SD)	15.93 (18.14)		

Supplementary Table 8. Clinical and Demographic Associations Across C3-C6-AAb Status for Patients with Acute Coronary Syndrome (ACS)

	C3-C6-AAb ⁻	C3-C6-AAb ⁺	<i>P</i> -value
N	453	175	
Gender (N %)			0.88
Female	127 (28.04%)	48 (27.43%)	
Male	326 (71.96%)	127 (72.57%)	
Age (Mean, SD)	63.47 (12.69)	63.99 (13.93)	0.65
LVEF (Mean, SD)	47.71 (11.43)	45.56 (11.08)	0.05‡
ACS (N %)			<0.0001
STEMI	194 (42.92%)	163 (94.22%)	
NSTEMI	175 (38.72%)	6 (3.47%)	
Unstable Angina (N %)	83 (18.36%)	4 (2.31%)	
Atrial Fibrillation (N %)	16 (3.53%)	4 (2.29%)	0.42
Ventricular Fibrillation (N %)	7 (1.55%)	3 (1.71%)	0.99
Prior AMI (N %)	61 (13.47%)	15 (8.57%)	0.09
Prior PCI (N %)	64 (14.13%)	15 (8.57%)	0.06
Prior CABG (N %)	44 (9.71%)	7 (4.0%)	0.02
Family History (N %)	85 (18.76%)	34 (19.43%)	0.85
SBP (Mean, SD)	137.77 (28.69)	136.51 (26.54)	0.62
Hypertension (N %)	188 (44.03%)	63 (38.41%)	0.22
Hypotension (N %)	15 (3.31%)	2 (1.14%)	0.17
Diabetes (N %)	97 (21.41%)	34 (19.43%)	0.58
Creatinine, mg/dL (Mean, SD)	1.03 (0.67)	1.05 (0.82)	0.75
BNP Baseline Measure, pg/mL (Mean, SD)	347.21 (562.21)	338.94 (613.76)	0.87
BNP Measure on Day 1, pg/mL (Mean, SD)	435.04 (587.24)	465.20 (499.23)	0.57
CKMB Baseline Measure, ng/mL (Mean, SD)	33.38 (60.61)	31.16 (48.28)	0.66
CKMB Measure on Day 1, ng/mL (Mean, SD)	58.01 (91.89)	81.77 (104.79)	0.03
CRP, mg/L (Mean, SD)	14.08 (31.19)	17.02 (46.56)	0.44
Myoglobin Baseline Measure, ng/mL (Mean, SD)	339.57 (566.50)	498.36 (745.77)	0.01
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	202.23 (390.32)	175.40 (185.83)	0.31
NTproBNP Baseline Measure, pg/mL (Mean, SD)	2,061.24 (4,741.48)	2,232.14 (4,982.37)	0.69
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	3,076.04 (5,019.07)	3,865.17 (5,994.78)	0.17
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	673.76 (1,849.48)	818.92 (1,209.14)	0.35
TnI Baseline Measure, ng/mL (Mean, SD)	3.73 (8.04)	4.96 (11.0)	0.18
TnI Measure on Day 1, ng/mL (Mean, SD)	13.67 (16.89)	21.23 (19.84)	<0.0001

*From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 9. Clinical and Demographic Associations Across C6-C8-AAb Status for Patients with Acute Coronary Syndrome (ACS)			
	C6-C8-AAb⁻	C6-C8-AAb⁺	P-value
N	533	95	
Gender (N %)			<i>0.89</i>
Female	148 (27.77%)	27 (28.42%)	
Male	385 (72.23%)	68 (71.58%)	
Age (Mean, SD)	63.85 (12.86)	62.26 (13.99)	<i>0.27</i>
LVEF (Mean, SD)	47.84 (11.27)	42.86 (11.03)	0.0003
ACS (N %)			<0.0001
STEMI	275 (51.69%)	82 (88.17%)	
NSTEMI	175 (32.89%)	6 (6.45%)	
Unstable Angina	82 (15.41%)	5 (5.38%)	
Atrial Fibrillation (N %)	18 (3.38%)	2 (2.11%)	<i>0.75</i>
Ventricular Fibrillation (N %)	8 (1.50%)	2 (2.11%)	<i>0.65</i>
Prior AMI (N %)	71 (13.32%)	5 (5.26%)	0.03
Prior PCI (N %)	72 (13.51%)	7 (7.37%)	<i>0.09</i>
Prior CABG (N %)	46 (8.63%)	5 (5.26%)	<i>0.27</i>
Family History (N %)	100 (18.76%)	19 (20%)	<i>0.78</i>
SBP (Mean, SD)	138.36 (28)	132.17 (28.16)	0.05‡
Hypertension (N %)	222 (44.31%)	29 (32.22%)	0.03
Hypotension (N %)	14 (2.63%)	3 (3.16%)	<i>0.73</i>
Diabetes (N %)	115 (21.58%)	16 (16.84%)	<i>0.29</i>
Creatinine, mg/dL (Mean, SD)	1.03 (0.74)	1.06 (0.56)	<i>0.58</i>
BNP Baseline Measure, pg/mL (Mean, SD)	333.26 (529.84)	408.11 (786.70)	<i>0.38</i>
BNP Measure on Day 1, pg/mL (Mean, SD)	418.79 (531.44)	587.79 (698.75)	<i>0.06</i>
CKMB Baseline Measure, ng/mL (Mean, SD)	32.68 (58.25)	33.15 (52.30)	<i>0.95</i>
CKMB Measure on Day 1, ng/mL (Mean, SD)	60.33 (92.25)	92.07 (114.69)	0.05‡
CRP, mg/L (Mean, SD)	14.80 (37.06)	15.53 (31.16)	<i>0.84</i>
Myoglobin Baseline Measure, ng/mL (Mean, SD)	356.21 (598.69)	543.54 (746.23)	0.02
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	183.28 (335.50)	256.94 (376.27)	<i>0.09</i>
NTproBNP Baseline Measure, pg/mL (Mean, SD)	1,890.07 (3,950.36)	3,312.87 (7,938.78)	<i>0.09</i>
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	2,966.77 (4,545.86)	5,279.11 (8,324.42)	0.02
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	634.51 (1,361.78)	1,187.31 (2,945.89)	<i>0.17</i>
TnI Baseline Measure, ng/mL (Mean, SD)	4.03 (8.89)	4.36 (9.62)	<i>0.75</i>
TnI Measure on Day 1, ng/mL (Mean, SD)	14.81 (17.45)	22.31 (20.64)	0.004

*From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 10. Clinical and Demographic Associations Across C8-C10-AAb Status for Patients with Acute Coronary Syndrome (ACS)			
	C8-C10-AAb⁻	C8-C10-AAb⁺	P-value
N	251	377	
Gender (N %)			0.007
Female	55 (21.91%)	120 (31.83%)	
Male	196 (78.09%)	257 (68.17%)	
Age (Mean, SD)	61.68 (12.74)	64.90 (13.10)	0.002
LVEF (Mean, SD)	48.51 (10.74)	46.15 (11.69)	0.01
ACS (N %)			0.002
STEMI	122 (48.80%)	235 (62.67%)	
NSTEMI	89 (35.60%)	92 (24.53%)	
Unstable Angina	39 (15.60%)	48 (12.80%)	
Atrial Fibrillation (N %)	7 (2.79%)	13 (3.45%)	0.64
Ventricular Fibrillation (N %)	2 (0.80%)	8 (2.12%)	0.33
Prior AMI (N %)	31 (12.35%)	45 (11.94%)	0.88
Prior PCI (N %)	36 (14.34%)	43 (11.41%)	0.28
Prior CABG (N %)	20 (7.97%)	31 (8.22%)	0.91
Family History (N %)	53 (21.12%)	66 (17.51%)	0.26
SBP (Mean, SD)	137.43 (27.41)	137.41 (28.58)	0.99
Hypertension (N %)	103 (43.46%)	148 (41.81%)	0.69
Hypotension (N %)	4 (1.59%)	13 (3.45%)	0.16
Diabetes (N %)	54 (21.51%)	77 (20.42%)	0.76
Creatinine, mg/dL (Mean, SD)	1.02 (0.78)	1.04 (0.67)	0.73
BNP Baseline Measure, pg/mL (Mean, SD)	313.16 (542.48)	366.06 (598.69)	0.27
BNP Measure on Day 1, pg/mL (Mean, SD)	379.54 (554.16)	486.31 (564.08)	0.04
CKMB Baseline Measure, ng/mL (Mean, SD)	31.48 (60.09)	33.61 (55.52)	0.68
CKMB Measure on Day 1, ng/mL (Mean, SD)	67.45 (106.62)	63.24 (89.23)	0.68
CRP, mg/L (Mean, SD)	13.97 (33.66)	15.53 (37.81)	0.60
Myoglobin Baseline Measure, ng/mL (Mean, SD)	369.59 (633.59)	395.53 (622.73)	0.62
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	191.03 (408.86)	196.31 (292.51)	0.88
NTproBNP Baseline Measure, pg/mL (Mean, SD)	1,655.90 (3,509.65)	2,414.32 (5,492.52)	0.04
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	2,395.75 (3,690.51)	3,901.11 (6,099.57)	0.0009
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	598.05 (1,691.05)	796.39 (1,692.61)	0.25
TnI Baseline Measure, ng/mL (Mean, SD)	3.99 (9.14)	4.13 (8.91)	0.85
TnI Measure on Day 1, ng/mL (Mean, SD)	14.68 (17.64)	16.76 (18.44)	0.22

*From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 11. Clinical and Demographic Associations Across FL-cMyBP-C-AAb Status for Patients with Acute Coronary Syndrome (ACS)			
	FL-cMyBP-C-AAb⁻	FL-cMyBP-C-AAb⁺	P-value
N	487	141	
Gender (N %)			0.32
Female	131 (26.90%)	44 (31.21%)	
Male	356 (73.10%)	97 (68.79%)	
Age (Mean, SD)	63.13 (13.11)	65.30 (12.70)	0.08
LVEF (Mean, SD)	47.45 (11.22)	45.95 (11.84)	0.20
ACS (N %)			<0.0001
STEMI	253 (52.27%)	104 (73.76%)	
NSTEMI	156 (32.23%)	25 (17.73%)	
Unstable Angina	75 (15.50%)	12 (8.51%)	
Atrial Fibrillation (N %)	18 (3.70%)	2 (1.42%)	0.27
Ventricular Fibrillation (N %)	8 (1.64%)	2 (1.42%)	0.99
Prior AMI (N %)	62 (12.73%)	14 (9.93%)	0.36
Prior PCI (N %)	67 (13.76%)	12 (8.51%)	0.09
Prior CABG (N %)	42 (8.62%)	9 (6.38%)	0.39
Family History (N %)	89 (18.28%)	30 (21.28%)	0.42
SBP (Mean, SD)	137.46 (28.56)	137.28 (26.48)	0.95
Hypertension (N %)	199 (43.36%)	52 (39.39%)	0.42
Hypotension (N %)	15 (3.08%)	2 (1.42%)	0.39
Diabetes (N %)	102 (20.94%)	29 (20.57%)	0.92
Creatinine, mg/dL (Mean, SD)	1.03 (0.67)	1.06 (0.88)	0.71
BNP Baseline Measure, pg/mL (Mean, SD)	339.34 (569.03)	363.16 (604.18)	0.67
BNP Measure on Day 1, pg/mL (Mean, SD)	435.98 (561.84)	470.55 (564.35)	0.57
CKMB Baseline Measure, ng/mL (Mean, SD)	34.78 (61.46)	25.94 (40.17)	0.06
CKMB Measure on Day 1, ng/mL (Mean, SD)	67.95 (100.50)	54.52 (79.98)	0.19
CRP, mg/L (Mean, SD)	13.59 (30.18)	19.39 (51.53)	0.21
Myoglobin Baseline Measure, ng/mL (Mean, SD)	382.12 (616.11)	395.20 (663.22)	0.83
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	197.40 (350.33)	183.83 (316.38)	0.71
NTproBNP Baseline Measure, pg/mL (Mean, SD)	2,149.92 (5,089.49)	1,978.75 (3,733.88)	0.67
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	3,236.40 (5,415.98)	3,556.79 (5,070.28)	0.57
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	646.43 (1,505.83)	925.07 (2,164.18)	0.23
TnI Baseline Measure, ng/mL (Mean, SD)	4.05 (8.77)	4.17 (9.73)	0.88
TnI Measure on Day 1, ng/mL (Mean, SD)	15.79 (18.08)	16.39 (18.39)	0.76

*From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate

Supplementary Table 12. Clinical and Demographic Associations for Patients with Dilated Cardiomyopathy by ELISA Status			
	Negative	Positive	P-value
N	40	33	
Gender (N %)			0.46
Female	8 (20.00%)	9 (27.27%)	
Male	32 (80.00%)	24 (72.73%)	
Age (Mean, SD)	56.98 (15.12)	55.78 (14.99)	0.73
NYHA Functional Class (N %)			0.64
I	2 (5.13%)	2 (6.06%)	
II	5 (12.82%)	8 (24.24%)	
III	25 (64.10%)	18 (54.55%)	
IV	7 (17.95%)	5 (15.15%)	
LVEF (Mean, SD)	25.69 (7.75)	26.18 (10.48)	0.82

**From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate; where Positive means positive on at least 1 domain*

Supplementary Table 13. Clinical and Demographic Associations Across for Patients with Hypertrophic Cardiomyopathy by ELISA Status			
	Negative	Positive	P-value
N	120	94	
Gender (N %)			0.28
Female	46 (38.33%)	43 (45.74%)	
Male	74 (61.67%)	51 (54.26%)	
Age (Mean, SD)	51.75 (17.19)	53.86 (14.24)	0.34
NYHA Functional Class (N %)			0.22
I	62 (52.54%)	37 (40.66%)	
II	31 (26.27%)	28 (30.77%)	
III	24 (20.34%)	26 (28.57%)	
IV	1 (0.85%)	0 (0%)	
LVEF (Mean, SD)	64.91 (7.95)	65.19 (8.30)	0.81

**From Independent Samples T-Test, Chi-Square Test, or Fisher's Exact Test when appropriate; where Positive means positive on at least 1 domain*

Supplementary Table 14. Clinical and Demographic Associations for Patients with Acute Coronary Syndrome (ACS) by ELISA Status			
	Negative	Positive	P-value
N	174	454	
Gender (N %)			0.01
Female	36 (20.69%)	139 (30.62%)	
Male	138 (79.31%)	315 (69.38%)	
Age (Mean, SD)	62.25 (12.75)	64.14 (13.13)	0.10
LVEF (Mean, SD)	48.91 (10.64)	46.40 (11.58)	0.02
ACS (N %)			<0.0001
STEMI	63 (36.21%)	294 (65.19%)	
NSTEMI	75 (43.10%)	106 (23.50%)	
Unstable Angina	36 (20.69%)	51 (11.31%)	
Atrial Fibrillation (N %)	4 (2.30%)	16 (3.52%)	0.43
Ventricular Fibrillation (N %)	1 (0.57%)	9 (1.98%)	0.30
Prior AMI (N %)	23 (13.22%)	53 (11.67%)	0.60
Prior PCI (N %)	27 (15.52%)	52 (11.45%)	0.17
Prior CABG (N %)	17 (9.77%)	34 (7.49%)	0.35
Family History of RF (N %)	31 (17.82%)	88 (19.38%)	0.65
SBP (Mean, SD)	139 (28)	136 (28)	0.24
Hypertension (N %)	78 (47.56%)	173 (40.52%)	0.12
Hypotension (N %)	4 (2.30%)	13 (2.86%)	0.99
Diabetes (N %)	43 (24.71%)	88 (19.38%)	0.15
Creatinine, mg/dL (Median, IQR)	0.91 (0.78 – 1.10)	0.91 (0.77 – 1.12)	0.78
BNP Baseline Measure, pg/mL (Median, IQR)	111 (51 – 290)	147 (56 – 383)	0.06
BNP Measure on Day 1, pg/mL (Median, IQR)	189 (91 – 397)	281 (135 – 565)	0.001
CKMB Baseline Measure, ng/mL (Median, IQR)	8.04 (3.64 – 32.54)	9.68 (3.90 – 37.64)	0.52
CKMB Measure on Day 1, ng/mL (Median, IQR)	13.61 (5.18 – 72.82)	31.12 (6.18 – 73.46)	0.27
CRP, mg/L (Median, IQR)	3.01 (1.40 – 8.78)	3.64 (1.59 – 9.99)	0.39
Myoglobin Baseline Measure, ng/mL (Median, IQR)	105.35 (56.25 – 311.55)	144.15 (63.41 – 420.65)	0.08
Myoglobin Measure on Day 1, ng/mL (Median, IQR)	75.98 (52.99 – 133.20)	96.83 (57.69 – 193.10)	0.02
NTproBNP Baseline Measure, pg/mL (Median, IQR)	332 (116 – 1408)	574 (135 – 2104)	0.04
NTproBNP Measure on Day 1, pg/mL (Median, IQR)	987 (416 – 2855)	1675 (618 – 4009)	0.002
NTproBNP Measure on 6 Months, pg/mL (Median, IQR)	217 (97 – 403)	312 (98 – 775)	0.03
TnI Baseline Measure, ng/mL (Median, IQR)	0.42 (0.03 – 3.54)	0.55 (0.05 – 3.71)	0.40
TnI Measure on Day 1, ng/mL (Median, IQR)	5.84 (0.59 – 23.12)	8.39 (1.48 – 27.57)	0.18

*From Independent Samples T-Test, Wilcoxon Rank-Sum Test, Chi-Square Test, or Fisher's Exact Test when appropriate; where Positive means positive on at least 1 domain

Supplementary Table 15. Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Dilated Cardiomyopathy				
	Number of Peptides Positive on ELISA			
	0	1	2	3+
N	44	21	6	2
Gender (N %)				
Female	10 (22.73%)	5 (23.81%)	1 (16.67%)	1 (50.00%)
Male	34 (77.27%)	16 (76.19%)	5 (83.33%)	1 (50.00%)
Age (Median, IQR)	59 (47 – 70)	60 (54 – 68)	47 (40 – 59)	57 (37 – 76)
NYHA Functional Class				
I	3 (6.98%)	1 (4.76%)	0 (0%)	0 (0%)
II	5 (11.63%)	5 (23.81%)	3 (50.00%)	0 (0%)
III	28 (65.12%)	13 (61.90%)	1 (16.67%)	1 (50.00%)
IV	7 (16.28%)	2 (9.52%)	2 (33.33%)	1 (50.00%)
LVEF (Median, IQR)	25 (20 – 30)	25 (20 – 35)	26 (20 – 29)	20 (15 – 25)

Supplementary Table 16: Odds of Decreasing the Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Dilated Cardiomyopathy		
	OR (95% CI)	p-value
Gender (Female vs Male)	0.91 (0.31 – 2.65)	0.86
Age	1.01 (0.98 – 1.04)	0.63
NYHA Functional Class		0.24
II vs I	0.20 (0.02 – 2.41)	
III vs I	0.61 (0.06 – 6.55)	
IV vs I	0.33 (0.03 – 4.20)	
LVEF	1.00 (0.95 – 1.05)	0.95

**Univariable ordinal logistic regression model, N=73*

Supplementary Table 17. Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Hypertrophic Cardiomyopathy				
	Number of Peptides Positive on ELISA			
	0	1	2	3+
N	121	75	15	3
Gender (N %)				
Female	47 (38.84%)	36 (48.00%)	6 (40.00%)	0
Male	74 (61.16%)	39 (52.00%)	9 (60.00%)	3 (100%)
Age (Median, IQR)	53 (40 – 65)	56 (45 – 66)	50 (42 – 62)	45 (37 – 58)
NYHA Functional Class				
I	63 (52.94%)	33 (44.59%)	3 (23.08%)	0 (0%)
II	31 (26.05%)	20 (27.03%)	7 (53.85%)	1 (33.33%)
III	24 (20.17%)	21 (28.38%)	3 (23.08%)	2 (66.67%)
IV	1 (0.84%)	0 (0%)	0 (0%)	0 (0%)
LVEF (Median, IQR)	65 (60 – 70)	65 (61 – 70)	65 (60 – 75)	66 (45 – 70)

Supplementary Table 18: Odds of Decreasing the Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Hypertrophic Cardiomyopathy		
	OR (95% CI)	p-value
Gender (Female vs Male)	0.84 (0.50 – 1.44)	0.53
Age	0.99 (0.98 – 1.01)	0.47
NYHA Functional Class		0.07
II vs I	0.56 (0.29 – 1.05)	
III vs I	0.51 (0.26 – 0.99)	
LVEF	0.97 (0.96 – 1.03)	0.84

**Univariable ordinal logistic regression model, N=214, NYHA IV excluded due to low sample size*

Supplementary Table 19. Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Acute Coronary Syndrome (ACS)				
	Number of Peptides Positive on ELISA			
	0	1	2	3+
N	202	245	134	47
Gender (N %)				
Female	46 (22.77%)	74 (30.20%)	40 (29.85%)	15 (31.91%)
Male	156 (77.23%)	171 (69.80%)	94 (70.15%)	32 (68.09%)
Age (Mean, SD)	62.58 (12.58)	64.07 (12.68)	63.72 (14.14)	65.38 (13.67)
LVEF (Mean, SD)	48.56 (10.80)	47.94 (11.72)	44.79 (11.02)	42.62 (11.16)
ACS (N %)				
STEMI	77 (38.12%)	119 (48.77%)	120 (90.23%)	41 (89.13%)
NSTEMI	86 (42.57%)	84 (34.43%)	9 (6.77%)	2 (4.35%)
Unstable Angina	39 (19.31%)	41 (16.80%)	4 (3.01%)	3 (6.52%)
Atrial Fibrillation (N %)	5 (2.48%)	13 (5.31%)	0 (0%)	2 (4.26%)
Ventricular Fibrillation (N %)	1 (0.50%)	5 (2.04%)	4 (2.99%)	0 (0%)
Prior AMI (N %)	29 (14.36%)	31 (12.65%)	12 (8.96%)	4 (8.51%)
Prior PCI (N %)	30 (14.85%)	37 (15.10%)	7 (5.22%)	5 (10.64%)
Prior CABG (N %)	19 (9.41%)	23 (9.39%)	7 (5.22%)	2 (4.26%)
Family History of RF (N %)	39 (19.31%)	47 (19.18%)	26 (19.40%)	7 (14.89%)
SBP (Mean, SD)	139.34 (27.56)	136.37 (29.09)	137.80 (27.62)	133.36 (26.63)
Hypertension (N %)	90 (47.12%)	95 (41.48%)	52 (40.94%)	14 (31.82%)
Hypotension (N %)	4 (1.98%)	9 (3.67%)	3 (2.24%)	1 (2.13%)
Diabetes (N %)	50 (24.75%)	44 (17.96%)	28 (20.90%)	9 (19.15%)
Creatinine, mg/dL (Mean, SD)	1.04 (0.86)	1.00 (0.44)	1.05 (0.91)	1.10 (0.57)
BNP Baseline Measure, pg/mL (Mean, SD)	322.92 (558.85)	337.30 (490.10)	376.92 (662.18)	382.50 (774.43)
BNP Measure on Day 1, pg/mL (Mean, SD)	381.86 (573.19)	440.88 (518.93)	491.12 (608.78)	580.97 (554.60)
CKMB Baseline Measure, ng/mL (Mean, SD)	32.82 (64.09)	32.36 (56.89)	33.67 (48.15)	31.91 (55.34)
CKMB Measure on Day 1, ng/mL (Mean, SD)	63.64 (103.60)	51.58 (78.76)	82.63 (107.32)	84.89 (103.18)
CRP, mg/L (Mean, SD)	13.49 (33.97)	14.72 (28.93)	17.64 (50.64)	14.08 (28.87)
Myoglobin Baseline Measure, ng/mL (Mean, SD)	311.91 (540.80)	371.52 (620.54)	455.99 (681.40)	556.61 (779.78)
Myoglobin Measure on Day 1, ng/mL (Mean, SD)	194.28 (441.85)	182.95 (281.59)	213.75 (319.61)	190.33 (175.16)
NTproBNP Baseline Measure, pg/mL (Mean, SD)	1719 (3746)	1927 (3778)	2703 (6643)	2961 (6685)
NTproBNP Measure on Day 1, pg/mL (Mean, SD)	2351 (3336)	3118 (4753)	4397 (7287)	5000 (6885)
NTproBNP Measure on 6 Months, pg/mL (Mean, SD)	629 (1857)	589 (885)	895 (2435)	1240 (1649)
TnI Baseline Measure, ng/mL (Mean, SD)	3.47 (7.64)	4.25 (9.34)	4.76 (10.28)	3.86 (8.68)
TnI Measure on Day 1, ng/mL (Mean, SD)	14.18 (17.50)	12.78 (16.06)	20.61 (19.22)	24.66 (21.90)

Supplementary Table 20: Odds of Decreasing the Number of Peptides Positive for AAbs on ELISA by Clinical and Demographic Variables for Patients with Acute Coronary Syndrome (ACS)		
	OR (95% CI)	p-value
Gender (Female vs Male)	0.76 (0.55 – 1.04)	0.09
Age	0.99 (0.98 – 1.00)	0.19
LVEF	1.02 (1.01 – 1.04)	0.0008
ACS [‡]		<.0001
Unstable Angina vs STEMI, 1 peptide	0.68 (0.40 – 1.15)	0.15
Unstable Angina vs STEMI, 2 peptides	0.07 (0.02 – 0.19)	<0.0001
Unstable Angina vs STEMI, 3+ peptides	0.14 (0.04 – 0.50)	0.002
NSTEMI vs STEMI, 1 peptide	0.63 (0.42 – 0.96)	0.03
NSTEMI vs STEMI, 2 peptides	0.07 (0.03 – 0.14)	<0.0001
NSTEMI vs STEMI, 3+ peptides	0.04 (0.01 – 0.19)	<0.0001
Atrial Fibrillation ^{†‡}		0.06
1 peptide	2.21 (0.77 – 6.30)	
2+ peptides	0.44 (0.08 – 2.30)	
Ventricular Fibrillation	0.56 (0.18 – 1.73)	0.31
Prior AMI	1.44 (0.92 – 2.24)	0.11
Prior PCI [†]	1.64 (1.06 – 2.55)	0.03
Prior CABG	1.49 (0.88 – 2.54)	0.14
Family History of RF	1.07 (0.74 – 1.54)	0.73
SBP	1.00 (1.00 – 1.01)	0.30
Hypertension	1.31 (0.97 – 1.77)	0.08
Hypotension	0.93 (0.38 – 2.23)	0.86
Diabetes	1.23 (0.87 – 1.75)	0.25
Creatinine	0.96 (0.78 – 1.17)	0.67
BNP Baseline Measure, 100 pg/mL	0.987 (0.963 – 1.013)	0.32
BNP Measure on Day 1, 100 pg/mL	0.968 (0.940 – 0.997)	0.03
CKMB Baseline Measure, ng/mL	1.00 (1.00 – 1.00)	0.97
CKMB Measure on Day 1, ng/mL	1.00 (1.00 – 1.00)	0.10
CRP, mg/L	1.00 (0.99 – 1.00)	0.43
Myoglobin Baseline Measure, 100 ng/mL	0.968 (0.946 – 0.991)	0.007
Myoglobin Measure on Day 1, 100 ng/mL	0.992 (0.946 – 1.041)	0.75
NTproBNP Baseline Measure, 100 pg/mL	0.997 (0.994 – 1.000)	0.03
NTproBNP Measure on Day 1, 100 pg/mL	0.995 (0.992 – 0.998)	0.0007
NTproBNP Measure on 6 Months, 100 pg/mL	0.990 (0.979 – 1.000)	0.06
TnI Baseline Measure	0.99 (0.98 – 1.01)	0.31
TnI Measure on Day 1 [‡]		<.0001
1 peptide	1.00 (0.98 – 1.01)	0.45
2 peptides	1.02 (1.01 – 1.03)	0.006
3+ peptides	1.03 (1.01 – 1.05)	0.003

**Univariable ordinal logistic regression model, N=628. †Categories collapsed into 0, 1, 2+. ‡Multinomial logistic regression model because proportional odds assumption violated.*