

Supplementary Information

Supplementary Table 1: MARCOIL predicted coiled-coil probability per residue for NTC5 peptides and the starting heptad registers for the predicted coiled-coil domain of each of the peptides. The heptad register is in parathesis next to the M type label. The coiled-coil probability percentage cutoff for determination of coiled-coil domain was 2%. This cutoff was determined based on lowest coiled-coil probability at which M protein structures (M1, M2, M49) have been experimentally resolved as coiled-coil dimers. The non-coiled-coil disordered structure domain residues are in red.

residue number	Coiled-coil probability in percent										
	emm4 (c)	emm8 (a)	emm22 (e)	emm28 (f)	emm60 (d)	emm78 (e)	emm88 (f)	emm109 (e)	emm165 (b)	emm169 (d)	emm176 (e)
1	0.0	0.9	19.2	0.3	4.8	0.9	0.5	3.1	0.1	8.3	0.0
2	0.1	1.1	23.9	0.6	12.0	1.1	1.3	4.2	0.3	20.3	0.0
3	0.1	1.3	28.3	0.7	22.3	1.4	2.3	6.8	0.5	37.5	0.0
4	0.1	3.6	34.8	0.9	31.8	4.1	13.9	32.4	0.7	53.6	0.0
5	0.2	5.8	39.8	2.7	43.8	6.3	19.2	45.4	1.2	61.0	0.0
6	0.2	8.2	43.8	3.6	50.3	8.4	33.8	64.3	2.5	64.4	0.0
7	0.3	12.3	47.5	4.7	53.5	9.8	40.3	79.2	3.5	67.9	0.0
8	0.4	21.8	53.2	7.0	56.5	13.2	46.3	87.1	5.5	70.6	0.0
9	0.6	39.7	61.2	7.7	61.0	24.6	54.3	93.1	11.2	74.6	0.0
10	0.7	56.5	68.7	8.5	67.4	38.0	65.4	94.6	17.6	82.5	0.1
11	0.9	75.4	77.2	10.3	73.3	73.8	70.6	96.9	23.5	85.5	0.2
12	1.1	90.6	80.8	13.0	80.8	82.7	78.3	98.0	32.0	89.4	0.9
13	3.7	95.3	84.4	14.5	84.0	86.9	81.5	98.4	38.7	91.2	1.5
14	5.7	97.4	85.9	21.7	87.3	92.6	84.7	98.7	58.3	92.6	1.8
15	9.3	98.0	88.3	27.3	89.3	95.1	87.2	99.0	70.4	93.4	2.8
16	44.3	99.0	91.7	30.5	92.5	96.4	94.2	99.4	73.5	93.6	3.8
17	62.1	99.5	93.4	32.4	94.3	97.2	95.9	99.5	79.4	94.1	15.5
18	67.4	99.7	95.8	33.1	95.1	97.4	97.0	99.6	87.6	94.4	28.8
19	73.1	99.8	96.8	33.9	96.0	97.9	98.4	99.7	90.0	94.5	59.6
20	77.7	99.8	97.6	34.4	96.4	98.0	99.0	99.8	92.7	94.6	74.7
21	81.8	99.9	98.5	35.0	96.8	98.1	99.5	99.8	94.7	94.7	84.1
22	82.9	99.9	98.8	35.6	97.1	98.1	99.7	99.8	96.0	94.7	86.4
23	84.2	99.9	99.0	36.1	97.2	98.2	99.7	99.8	96.4	94.6	90.9
24	84.9	99.9	99.2	36.7	97.5	98.2	99.8	99.8	97.1	94.6	94.4
25	85.1	99.9	99.2	36.9	97.6	98.1	99.8	99.8	97.4	94.5	95.4
26	85.3	99.9	99.2	37.1	97.7	98.0	99.8	99.8	97.5	94.1	96.6
27	85.3	99.8	99.2	37.3	97.7	97.8	99.8	99.6	97.5	93.8	97.4
28	85.2	99.8	99.2	37.3	97.7	97.0	99.8	99.2	97.6	93.0	98.0
29	84.9	99.7	99.2	37.4	97.7	96.4	99.8	98.2	97.6	91.7	98.1
30	84.2	99.6	99.1	37.4	97.6	95.5	99.7	96.0	97.6	91.1	98.4
31	84.0	99.3	98.9	37.2	97.6	94.1	99.6	93.4	97.6	90.5	98.6
32	83.0	98.7	98.1	36.8	97.5	92.5	99.5	92.8	97.4	89.5	98.7
33	82.2	97.1	96.2	36.1	97.1	91.4	99.1	92.0	97.1	88.8	98.7
34	79.7	94.9	92.0	34.9	96.8	89.5	98.2	91.4	96.2	87.5	98.8
35	75.6	91.9	82.1	31.0	95.8	87.8	97.0	90.0	93.4	85.3	98.8
36	70.9	90.8	70.6	27.3	94.3	84.2	94.2	87.5	85.1	82.3	98.7
37	67.3	89.9	67.8	26.9	93.7	77.5	93.0	84.7	75.6	78.6	98.6
38	63.5	88.5	64.2	26.6	93.1	68.7	92.1	83.4	68.3	72.6	98.4
39	62.5	87.5	61.7	25.5	92.1	66.2	90.7	78.1	56.5	56.8	98.0
40	61.4	84.9	60.8	24.8	91.5	56.1	89.7	64.4	48.4	22.9	96.7
41	59.1	80.2	59.0	23.8	90.0	36.7	87.1	18.2	45.4	18.7	92.6
42	55.0	73.9	57.1	22.9	87.3	12.6	82.1	11.9	39.8	18.1	80.6
43	53.1	70.0	56.2	22.0	83.8	9.4	75.5	3.6	33.9	16.7	66.9
44	45.4	63.7	52.6	19.1	79.3	2.1	71.5	2.1	31.0	15.2	56.2
45	30.2	47.0	43.2	10.6	71.8	0.9	64.8	1.4	26.2	12.6	39.2
46	10.2	10.8	11.7	3.1	52.1	0.5	47.1	1.0	13.6	9.2	27.4
47	7.5	6.4	7.5	2.2	9.5	0.3	8.5	0.8	2.5	6.7	23.1
48	1.5	5.8	1.8	0.9	4.4	0.2	3.9	0.5	1.1	4.5	15.1
49	0.5	4.3	0.8	0.6	3.7	0.1	3.3	0.4	0.9	3.7	6.4
50	0.2	2.7	0.3	0.3	2.0	0.1	1.8	0.2	0.5	1.3	4.0
average coiled-coil probability	43.7	67.8	67.7	21.3	74.0	57.4	71.2	67.8	53.4	65.2	50.5