

Supplementary Table 1: Cytotoxic activity of peptide library toward MDA-MB-231 breast cancer cells

Peptide	MDA-MB-231 ^a		
	Percent Cytotoxicity		
	12.5 μ M	25 μ M	50 μ M
1018	2	0	18
2001	1	17	57
2002	0	0	13
2003	10	22	64
2004	13	22	76
2005	2	10	32
2006	3	8	75
2007	0	0	47
2008	0	9	38
1002	0	2	8
2009	2	7	22
2010	0	0	0
HH2	0	0	5
2011	0	5	11
2012	4	25	61
2013	0	0	0
V681	97	98	96
NRC-03 ^b	22	49	87
NRC-07 ^b	35	59	94
MPLfcinB6	0	2	7
1020	0	0	7
1020RK	0	0	5
Guavanin	1	0	1
Pa-MAP1.9	12	15	18
Mastoparan	31	55	93

^aPeptide-mediated cytotoxicity was assessed after 24 h by MTT assay. Data shown represent the mean of 3 independent experiments. Red denotes significant anti-cancer activities.

^bNRC-03 and NRC-07 included as a positive control (Hilchie *et al.*, 2011).

Supplementary Table 2: Cytotoxic activity of peptide library toward MDA-MB-468 breast cancer cells

Peptide	MDA-MB-468 ^a		
	Percent Cytotoxicity		
	12.5 μ M	25 μ M	50 μ M
1018	20	32	49
2001	4	21	64
2002	0	2	29
2003	7	18	67
2004	7	26	76
2005	7	16	62
2006	7	41	81
2007	15	42	84
2008	17	46	79
1002	4	9	44
2009	5	28	60
2010	1	5	3
HH2	5	8	15
2011	1	4	11
2012	12	32	64
2013	9	11	18
V681	84	97	97
NRC-03 ^b	24	52	80
NRC-07 ^b	38	64	83
MPLfcinB6	0	9	32
1020	0	1	22
1020RK	0	7	23
Guavanin	18	15	16
Pa-MAP1.9	19	22	32
Mastoparan	38	49	84

^aPeptide-mediated cytotoxicity was assessed after 24 h by MTT assay. Data shown represent the mean of 3 independent experiments. Red denotes significant anti-cancer activities.

^bNRC-03 and NRC-07 included as a positive control (Hilchie *et al.*, 2011).

Supplementary Table 3: Hemolytic activity of anti-cancer peptides

	Human Erythrocytes^a		
	Percent Hemolysis		
	12.5 μ M	25 μ M	50 μ M
2001	1	1	3
2003	0	0	0
2004	1	2	2
2005	5	9	15
2006	3	4	4
2007	1	1	1
2008	0	1	1
2009	1	2	6
2012	1	2	4
V681	31	54	84
NRC-03 ^b	2	3	4
NRC-07 ^b	4	7	9
Mastoparan	4	2	3

^aPeptide-mediated hemolytic activity was assessed after 4 h by hemolysis assay. Data shown represent the mean of 3 independent experiments. Red denotes significant hemolytic activities.

^bNRC-03 and NRC-07 included as a negative control for hemolysis (Hilchie *et al.*, 2011).