

A scorpion venom-derived peptide M6 endowed with anti-aging ability via enhanced antioxidant activity in cells, *Caenorhabditis elegans* and mouse models

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Supplementary Table S1. Viral vector construction framework

NO.	5'	STEM	Loop	STEM	3'
siRN A1-F	Ccgg	CTTGAAGGAACTA CTACTAAG	CTCGAG	CTTAGTAGTAGTTC CTTCAAG	TTTTTTg
siRN A1-R	aattcaaa aaa	CTTGAAGGAACTA CTACTAAG	CTCGAG	CTTAGTAGTAGTTC CTTCAAG	
siRN A2-F	Ccgg	TCCCTCCTCTTCAT TGGTTTA	CTCGAG	TAAACCAATGAAGA GGAGGGA	TTTTTTg
siRN A2-R	aattcaaa aaa	TCCCTCCTCTTCAT TGGTTTA	CTCGAG	TAAACCAATGAAGA GGAGGGA	
siRN A3-F	Ccgg	GCTCTACTCCATTG TTTGTGG	CTCGAG	CCACAAACAATGGA GTAGAGC	TTTTTTg
siRN A3-R	aattcaaa aaa	GCTCTACTCCATTG TTTGTGG	CTCGAG	CCACAAACAATGGA GTAGAGC	
Vehicle-F	Ccgg	TTCTCCGAACGTG TCACGT	TTCAAG AGA	ACGTGACACGTTCG GAGAA	TTTTTTg
Vehicle-R	aattcaaa aaa	TTCTCCGAACGTG TCACGT	TCTCTT GAA	ACGTGACACGTTCG GAGAA	

Supplementary Table S2. The details of antibodies in WB

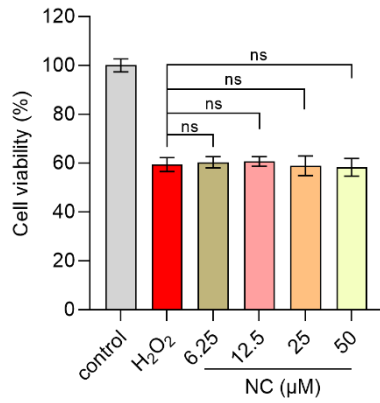
Antibodies	Company	Cat. number
APAF1	Cell Signaling Technology, Inc.	8969T
PARP	Cell Signaling Technology, Inc.	9542S
MAPK	Cell Signaling Technology, Inc.	4695T
P-MAPK	Cell Signaling Technology, Inc.	4370T
Caspase-9	Cell Signaling Technology, Inc.	9502T
Caspase-3	Cell Signaling Technology, Inc.	9662S
Bax	Cell Signaling Technology, Inc.	2772T
Tubulin	Cell Signaling Technology, Inc.	2144S
Bcl-2	Cell Signaling Technology, Inc.	15071T
Cytoc	Cell Signaling Technology, Inc.	11940T
NFKB	Cell Signaling Technology, Inc.	4249T
P-NFKB	Cell Signaling Technology, Inc.	17366T
Actin	Cell Signaling Technology, Inc.	4967S
GAPDH	Cell Signaling Technology, Inc.	97166
TNFR1	Cell Signaling Technology, Inc.	3736T

Supplementary Table S3. The primers for q-PCR in *C. elegans* and cells

Gene	Forward	Reverse
<i>C. elegans</i>		
<i>daf-16</i>	TTTCCGTCCCCGAACTCA	ATTCGCCAACCCATGATGG
<i>daf-2</i>	GCGGATACACAGCAAGAATAAC	GAGCCACAAGCACCAGAAC
<i>age-1</i>	CCTGAACCGACTGCCAATC	GTGCTTGACGAGATATGTGTATTG
<i>akt-1</i>	CAAAGCCTAAGGAAGGACAACC	CATGAATCCAACGCTGACGAAC
<i>sgk-1</i>	CACCGACTTTGGGCTCTGTAA	CTTGAGACGAAGTGGCTGGTT
<i>skn-1</i>	AGTGTCGGCGTTCCAGATTTT	GTCGACGAATCTTGCGAATCA
<i>sod-3</i>	CTAAGGATGGTGGAGAACCTTCA	CGCGCTTAATAGTGTCCATCAG
<i>hsp-16.2</i>	CTGCAGAATCTCTCCATCTGAGTC	AGATTCTGAAGCAACTGCACC
<i>gst-4</i>	TCCGTCAATTCACCTTCTTCCG	AAGAAATCATCACGGGCTGG
<i>hsf-1</i>	TTGACGACGACAAGCTTCCAGT	AAAGCTTGCACCAGAATCATCCC
<i>clk-2</i>	TTCGCTGAGGTTGAACAATCCG	TTGCTGATTGTCATAAGCCATTGC
<i>ctl-1</i>	TTTCAACGGTCGCTGGAGAA	AGTCTGTGGATTGCGCTTCA
<i>aak-2</i>	TCTTCCGCCATCCGCATATC	CCTCTTCATCGGGTCTACGC
<i>pdk-1</i>	ATCGCGGAGACCCATTTGTT	AACAGGAACATTCGGCGTCT
<i>let-363</i>	ACTTGGTTCACTCGTCGGTC	AATTGCGCAACGAACAAGCT
<i>sir-2.1</i>	AAATCTTCCCAGGACAGTTCGTA	ATGGGCAACACGCATAGCA
<i>pmk-1</i>	CRACTCCACGAGAAGGAT	ATATGTACGACGGGCATG
<i>let-60</i>	GAGCAGATTCGGAGGGTAAAG	GTCGACTGATCGAGATGACAAA
<i>ctl-2</i>	TCCCAGATGGGTACCGTCAT	GGTCCGAAGAGGCAAGTTGA
<i>mev-1</i>	CGTCACCAAGTCCGAGGCAAAG	ATGTGGAGCGATTGGGCGATTC
<i>nsy-1</i>	TGCGATGAACTACTACGG	CACCCAAATGACCAAATA
<i>akt-2</i>	AGCACCTTTTGCGGAACACCAG	TCCCCACCAGTCAAACTACGG
<i>sek-1</i>	TGCTCAACGAGCTAGACG	ATGTTTCGACGGTTTCACG
<i>hsp-12.6</i>	TGGAGTTGTCAATGTCCTCG	GACTTCAATCTCTTTTGGGAGG
<i>sip-1</i>	CGAGCACGGGTTTCAGCAAGAG	CAGCGTGTCCAGCAGAAGTGTG
<i>jnk-1</i>	TGGAACCAGCCAATTCCCAA	TCACAACACTCTGCTCGCAT
<i>act-1</i>	CCAGGAATTGCTGATCGTATGCAGAA	TGGAGAGGGAAGCGAGGATAGA
Cells		
<i>actin</i>	ATTGGCAATGAGCGGTTCCG	AGGGCAGTGATCTCCTTCTG
<i>TNFR1</i>	TCCAAATGCCGAAAGGAA	TGGAAAAGGTTTTCACTCCAA

Supplementary Figure S1.

The negative peptide (NC) [sequence: WCYKKPDRVSIKEGKRCN] was used as the negative control in this study. The HUVEC cells were treated with NC for 24 h, then the cells were exposed to H₂O₂. The results showed that the cell viability didn't changed.



The cell viability of HUVEC under H₂O₂ for 4 h after the cells were treated with NC for 24 h. ns denoted not significance.