

H₂O₂/DEM-promoted *maft* promoter demethylation drives Nrf2/ARE activation in zebrafish

Ce Chen^{1#}, Mingyue He^{1#}, Xueting Li^{1#}, Lidong Yu², Yi Liu¹, Yan Yang¹, Li Li^{1*}, Jianbo Jia^{3*}, Bingsheng Li⁴

- ¹ School of Life Science and Technology, Harbin Institute of Technology, Harbin 150080, P.R. China
² School of Physics, Harbin Institute of Technology, Harbin 150080, P.R. China
³ School of Biotechnology and Health Sciences, Wuyi University, Jiangmen 529020, P.R. China
⁴ Key Laboratory of UV Light Emitting Materials and Technology of Ministry of Education, Northeast Normal University, Changchun 130024, P. R. China
These authors contributed equally.
* Correspondence: lilili@hit.edu.cn (L.L.); jbjia@wyu.edu.cn (J.J.)

Table S1. PCR Oligonucleotide primers.

Genes	Forward Primer sequences	Reverse Primer sequences
<i>keap1a</i>	5'- GTGTGGAGTGCTACTGTCCC -3'	5'- TCCTCCTCTGGCAGGATACC -3'
<i>Keap1b</i>	5'- ATCGAGGGGATACACCCCAA -3'	5'- AGTGCTCCACCAGGAAATC -3'
<i>nrf2a</i>	5'- GAGCGGGAGAAATCACACAGAATG -3'	5'- CAGGAGCTGCATGCACCTCATCG -3'
<i>nrf2b</i>	5'- GCCACGTTATGCTGGGTTC -3'	5'- CTGCGGACAACGATAGCAGA -3'
<i>mafK</i>	5'- ACCTGTTGACTCCAGGACACT -3'	5'- AAATCTGTCTTGTGAACGCGG -3'
<i>maf1</i>	5'- TCATTATAAGGGCGCTGTGGG -3'	5'- GACTCGTGCCATTCTCACCT -3'
<i>maf2</i>	5'- CGCTCCAAATACGAGGCTCT -3'	5'- GGCGTCGGTCTTGGACTTTA -3'
<i>maft</i>	5'- GTGTGACACGAAACACCGGA -3'	5'- CCCTTTTCACCTTGAGGGCT -3'
<i>gclC</i>	5'- AACCGACACCCAAAGATTACAGCACT -3'	5'- CCATCATCTCTGGAACACCTCC -3'
<i>gstP1</i>	5'- CGACTTGAAAGCCACCTGTGTC -3'	5'- CTGTCGTTTTTGCCATATGCAGC -3'
<i>ef1α</i>	5'- CCTGGGAGTGAAACGCTGATC -3'	5'- CCGATCTTCTTGATGTATGCGCTG -3'
<i>nqo1</i>	5'- TTTCGAGAATCCCGAGCACT -3'	5'- TCTTCTGCGATCAAGCTGAAAG -3'
<i>sod1</i>	5'- CTAGCCCGCTGACATTACATC -3'	5'- TTGCCACATAGAAATGCAC -3'
<i>sod2</i>	5'- CGCATGTTCCAGACATCTA -3'	5'- GAGCGGAAGATTGAGGATTG -3'
<i>dnmt1</i>	5'- GGGCTACCACTGCACCTTTG -3'	5'- GATGATAGCTCTGCGTCGAGTC -3'
<i>dnmt3a1</i>	5'- TTTTCGGTTGTTTTTTGTTC -3'	5'- CCGTCACCGATCAATAACT -3'
<i>dnmt3a2</i>	5'- ATGTGAATATTGATGTTTTGGTAGTGT -3'	5'- AATAAACAACCACATCCAAATTTAA -3'
<i>dnmt3b1</i>	5'- AGTGTGATGATATTATTTATTGTTGTG -3'	5'- ACATTAACTTCTCTCTCTCAAAATC -3'
<i>dnmt3b2</i>	5'- GTGGATTTTTTATGAATGAAATTA -3'	5'- TACACACTCAACAAAACAAAAAC -3'
<i>dnmt3b3</i>	5'- AGGTGAGAATGTTTCGGC -3'	5'- AACGACCCACGAATAACAAT -3'
<i>dnmt3b4</i>	5'- TTTTGTATATAAAATTTTTTTTGT -3'	5'- CCTTCTCTACTACTCAAAACCTC -3'

Table S2. Methylated PCR primers

Genes	Forward Primer sequences	Reverse Primer sequences
<i>keap1a</i>	5'- TTTTCGGTTTGT TTTTGTTC -3'	5'- CCGTCACCGATCAATAACT -3'
<i>nrf2a</i>	5'- ATGTGAATATTGATGTTTGGTAGTGT -3'	5'- AATAACAACCAATTCCAAATTA -3'
<i>nrf2b</i>	5'- AGTGTGATGATATTATTATTGTTGTG -3'	5'- ACATTAATCTTCTCTCTTCAAATC -3'
<i>maf2</i>	5'- GTGGATTTTATGAATGAAATTA -3'	5'- TACACACTCAACAAACAAAAAC -3'
<i>mafK</i>	5'- AGGTGAGAATGTTTCGGC -3'	5'- AACGACCCACGAATAACAAT -3'
<i>mafI</i>	5'- TTTTGTATATAAAATATTTTGTGTT -3'	5'- CCTTCTTCTACTACTCCAAACCTC -3'

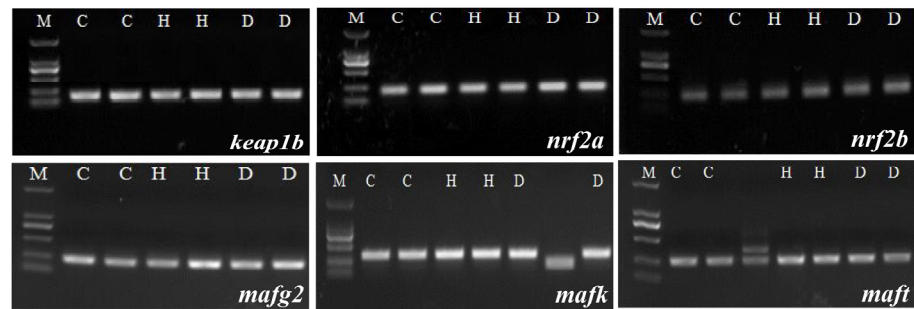


Figure S1. Gel electrophoresis of methylated PCR products.

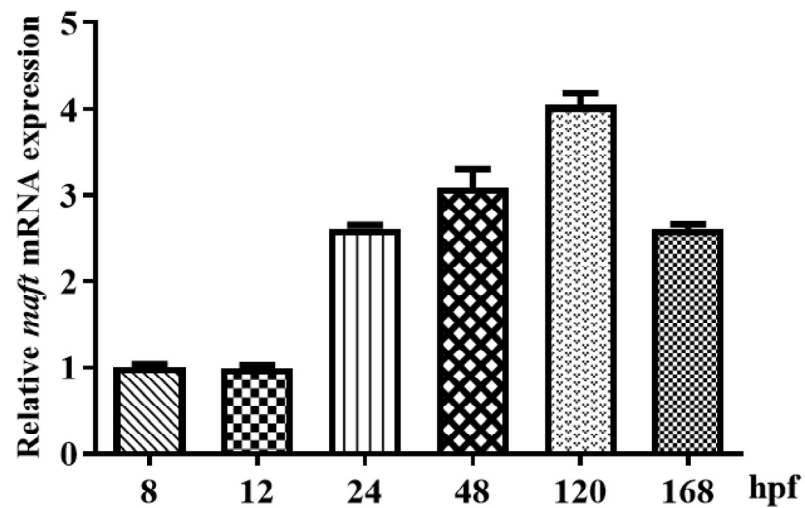


Figure S2. The expression of *mafI* in different periods.