**Transcriptome analysis reveals reduced immunity and metabolic level under cold stress in *Mauremys mutica***

Jiahui OuYang1,2†, Yangchun Gao2†, Yufeng Wei2, Huangping Huang3, Yan Ge2, Jun Zhao1\*, Shiping Gong3\*

1 School of Life Science, South China Normal University, Guangzhou 510631, China

2 Guangdong Key Laboratory of Animal Conservation and Resource Utilization, Guangdong Public Laboratory of Wild Animal Conservation and Utilization, Institute of Zoology, Guangdong Academy of Sciences, Guangzhou 510260, China

3 College of Life Science and Technology, Jinan University, Guangzhou 510632, China

† These authors contributed equally to this work and share first authorship

Table S1 Differential gene expression between groups

|  |  |  |
| --- | --- | --- |
| 3h VS 24h/ 48h/R | 24h VS 48h/R | 48h VS R |
| cystathionine beta-synthase-like | hypothetical protein llap\_3873 | hypothetical protein UY3\_00570 |
| pleckstrin homology-like domain family A member 2 | group 3 secretory phospholipase A2 | anion exchange transporter isoform X1 |
| rna-directed dna polymerase from mobile element jockey- hypothetical protein | LOW QUALITY PROTEIN: uncharacterized protein LOC112125486 | HLA class II histocompatibility antigen, DR alpha chain-like, partial |
| Neuronal PAS domain-containing protein 3 | hypothetical protein llap\_11599 | matrix metalloproteinase-18-like |
| uncharacterized protein LOC112117576 | unconventional myosin-Ie | uncharacterized protein LOC102452189 |
| Fatty acid desaturase 1, partial | HIG1 domain family member 1A, mitochondrial | hypothetical protein XENTR\_v90002034mg |
| Butyrophilin subfamily 2 member A1 | cyclic GMP-AMP synthase | uncharacterized protein LOC108647659, partial |
| LOW QUALITY PROTEIN: piwi-like protein 2 | probable ATP-dependent RNA helicase DDX5 isoform X1 | NACHT, LRR and PYD domains-containing protein 3-like |
|  | endonuclease-reverse transcriptase HmRTE-e01, partial | mast cell protease 1A-like |
|  | hepatic lectin-like | fumarylacetoacetase |
|  | nectin-3 isoform A | hypothetical protein UY3\_00759 |
|  | ubl carboxyl-terminal hydrolase 18 isoform X2 | mitochondrial pyruvate carrier 1 |
|  | RWD domain-containing protein 2A isoform X2 | three prime repair exonuclease 2 |
|  | zinc finger protein 436-like, partial | epithelial-stromal interaction protein 1 |
|  | interferon-stimulated gene 20 kDa protein | probable E3 ubiquitin-protein ligase HERC6 |
|  | ubiquitin-fold modifier 1 | 2-amino-3-carboxymuconate-6-semialdehyde decarboxylase |
|  | interferon-induced protein with tetratricopeptide repeats 5 | smoothelin-like protein 1 isoform X4 |
|  | cytochrome P450 2D15-like | O-acetyl-ADP-ribose deacetylase MACROD1 isoform X1 |
|  | uncharacterized protein LOC101938736 | LOW QUALITY PROTEIN: uncharacterized protein K02A2.6-like |
|  | RNA-directed DNA polymerase from mobile element jockey-like | putative N-acetylated-alpha-linked acidic dipeptidase isoform X1 |
|  | hypothetical protein UY3\_00407 | probable ATP-dependent RNA helicase DDX60 isoform X1 |
|  | interferon-induced protein with tetratricopeptide repeats 5-like, partial |  |
|  | transmembrane protein 41A isoform X1 |  |
|  | vesicle-associated membrane protein 8-like |  |
|  | LOW QUALITY PROTEIN: uncharacterized protein LOC102459719 |  |
|  | hypothetical protein UY3\_07110 |  |
|  | Apolipoprotein A-IV |  |
|  | E3 ubiquitin-protein ligase RAD18 isoform X4 |  |
|  | Lymphocyte activation gene 3 protein |  |
|  | neuropeptide Y receptor type 4-like |  |
|  | rna-directed dna polymerase from mobile element jockey-like |  |
|  | trihelix transcription factor GTL1-like |  |
|  | corticosteroid 11-beta-dehydrogenase isozyme 1-like |  |
|  | transcriptional repressor CTCFL |  |
|  | uncharacterized protein LOC101944505 |  |
|  | C3a anaphylatoxin chemotactic receptor-like |  |
|  | tastin isoform X4 |  |
|  | ORF2 |  |
|  | hypothetical protein UY3\_11460 |  |
|  | uncharacterized protein LOC109061806 |  |
|  | uncharacterized protein LOC106732794 |  |
|  | protein KRBA1 |  |
|  | cystathionine beta-synthase-like |  |
|  | Inner centromere protein, partial |  |
|  | C- insulin-induced gene 1 protein |  |
|  | D- glucose-6-phosphatase-like |  |
|  | E- guanylate-binding protein 1-like, partial |  |
|  | myb-related transcription factor, partner of profilin |  |
|  | LOW QUALITY PROTEIN: E3 ubiquitin-protein ligase UHRF2 |  |
|  | sodium-dependent |  |
|  | interferon alpha-inducible protein 27-like protein 2B-like |  |
|  | kynurenine--oxoglutarate transaminase 3 isoform X3 |  |
|  | uncharacterized protein LOC106705349 |  |
|  | potassium voltage-gated channel subfamily KQT member 1 isoform X2 |  |
|  | lysophosphatidylcholine symporter 1 isoform X1 |  |