Table S2 Primers for tissue distribution of *P.* *trituberculatus* neuropeptide genes used for RT-PCR.

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| --- | --- |
| Neuropeptide genes | Primer sequences（5’-3’） |
| ACP | F-GGGTGCCACAGGGGAAGAGR-TGACCAGCAAGGGAGGAGAGA |
| ALP | F-CCACCGCCCTAACGACTGR-CCCCCACTGCTGGAAGATAC |
| AST-A | F-CTCCCCCTGTCCGTGGTR-GGTCGTACTGAAGGTTATAGTTCCC |
| AST-B | F-ACAGCGAAGACATTGACGACGR-TTCCCCAAAGCGCCCAC |
| AST-C | F-GTGACCTACTGAAGGGGGAGAR-CCAGAGAGAGGGGCAAACAT |
| AST-CCC | F-GAGGAGGATGGCTCGCTGR-GAGGAGGATGGCTCGCTG |
| CCAP | F-AGCAAGGTTATGGGAGCAAR-ATACTGTGGCTGAATAAGAGACC |
| CHH1 | F-ATCCGTATGCCAAGTGAGCCR-TGAGGGACGCCAGCAGTCT |
| CHH2 | F-AGTCTATCAAATCCGTATGCCAA R-CAGTCTGCCCATTCTTCCA |
| MIH | F-GTATTGCTGGCTGTCCTTTGR-GCAGATCCATTCTACCTTTTTGT |
| CFSH | F-CCATACTTTACAGAACAAGAGAGCAR-TGAACAGTTGACACCACGATG |
| Corazonin | F-CAGTTGTGGTGCTCGTTGCCR- GCTCAGCGGACCTTTTTCG |
| CNMamide | F-GCGGAGGCAAGCAATAAAAACR-CAGGTCGTCCCAGGGAAGG |
| DH31 | F-TCGGTCTGTGTCTGGTGGTTR-GCATAAGATACTCCCTCATCTTCTCA |
| Elevenin | F-CACACCCATCTCAGTCATTGCR-GGTTCGCTCCACCTACACG |
| GPA2 | F-TGTCTGCTCGCCTACTCCTCR-ATGTCAAACTCAACACACTCTGG |
| GPB5 | F-TCTGCCTCCTTCCTCCAGCR-GCACATCCTCCCGTTATCGT |
| GSEFLamide | F-ACAGAATGACGCCGGAGACR-TTGTTGAGGAGGAGGGAGAAG |
| Kinin | F-GGTGGGTTTGATGATGTGCTACR-ATGCTTTCCGCTTTGTGTC |
| Myosuppressin | F-CTATTCCTCCTCCCATCTGCR-AGTCCTCCATTGCTCGTGA |
| Neuroparsin1 | F-GGCGAGACTTGTGGAGGGTAR-GGAGGCGTCAAAGGGAGAA |
| Neuroparsin2 | F-TGATTGTGATGATGGTGGGCR-TGGGTGCAACGCGAGAC |
| Neuroparsin3 | F-ATCGTCTCACTTCTTTTCTTTCCR-GTGTTGCCACAGCGGTTC |
| NPF1 | F-GCTGGCTGGCACACTGAGR-GTAGGCATTGAGGGCGTCT |
| NPF2 | F-GCGATTCGGGAAGCGTAGCR-CGCCTCCTTGCCAGTGTCT |
| sNPF | F-GCTGGCAGGTGTCTCAGAGGTR-TCGTGGTGGTCGAGGATGG |
| PDH1 | F-ACCAAGGGGCAGGAGCTR-TTGCGTTTGTGAGGGAGACC |
| PDH2 | F-CGCCGTGGTCGTAGCCGR-CGCCACCATCTCACGCTCTT |
| Ryamide | F-AGAGCGAGGAAGGCGAAGTR-CGGATGCGGATTTTTTGAGG |
| RPCH | F-GTGGCGTGGGAGAGGCAR-GACAGCTGAGACAGGGATAGGG |
| Tachykinin | F-AAGAGTGAAGAAGAGGAAGAGGAGGR-CACGAGACTGTCAAATTCGGAGT |
| Trissin | F-ACGAAATGCTGGAGCTGGAGGR-GGGGGTGGCTGGTGGAAA |
| β-actin | F-CGAAACCTTCAACACTCCCGR-GGATAGCGTGAGGAAGGGCATA |

Table S3 Primers for tissue distribution of *P.* *trituberculatus* neuropeptide GPCR genes used for RT-PCR.

|  |  |
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| Neuropeptide GPCR genes | Primer sequences（5’-3’） |
| Pt-GPCR-A1 | F-TTCGCCCGCAACAAGCAR-GAGCCTGACCGTCCAGCAAC |
| Pt-GPCR-A2 | F-CCTTCGGGAGCATCTGGTR-CGTTGCGTTCTGTGCGTAT |
| Pt-GPCR-A4 | F-TACGACGCTATCACCCATCCR- CGCCGTCCACTGATGTCTC |
| Pt-GPCR-A7 | F-CGCAACTACACTAACGGCAAGAR-CGCCACGACTGTCCACAAAA |
| Pt-GPCR-A8 | F- ACCCGATCAAAGGCAAGGR-CAAGATGTGACTGTCCCGAAT |
| Pt-GPCR-A9 | F-CAAGCACCTCAGAAACATCCGR-AACAGCGTGGTCACCCAAAA |
| Pt-GPCR-A11 | F-GCTGGGTGTTCGCCCTTACR-CCACGGATGGCGCAGTAG |
| Pt-GPCR-A12 | F-AGCCCGTCTTGTTTACCTTGTGR-TGCTGAACTTGCGCTGTCTTAC |
| Pt-GPCR-A13 | F-GAGGAATGAGTGGCGGATAACR-GGACGTGCAGACCTGGGTA |
| Pt-GPCR-A14 | F-GGAGCTGAATCTTGCGAGGAR-GGACTTGGAGTGCTTGTAGGGA |
| Pt-GPCR-A16 | F-CTCCCTTCAGAGGAATGTCTCGR-CTGTGGTTGCTGTGGCTCAT |
| Pt-GPCR-A18 | F-GCTGACTTCAACTACGCAGGATTR-GTTGAGCCAGCCGTACAGAA |
| Pt-GPCR-A19 | F-TGTTGGCTGGACTTTGGGTGAR-GGCGCAAGGCAGAAGGTGAA |
| Pt-GPCR-A21 | F-CGGCGAAGCCTCCGTTAGATR-TGGGACACGAAGGTGGTCAT |
| Pt-GPCR-A23 | F-TGAGTCGGTCAACCAAGGAGR-GCGTGGGTGACAAGAATACAG |
| Pt-GPCR-A24 | F-CACGCCTGCTACAACCCTCR-CTCTGCAATCCCGCTGACT |
| Pt-GPCR-A25 | F-AACCCGTTACAGGAGCAGCR-CAGCCTCAGTAGAGCAATGACTA |
| Pt-GPCR-A26 | F-CGGCGAAGCAGCGACTAR-CGTATCCCATGAACCACCC |
| Pt-GPCR-A27 | F-TGAGGACGAGGACGAAGAGGAR-TGGGCTGGCGGGAAATAAAG |
| Pt-GPCR-A28 | F-ATCATCCCGTGTCTGCTCCR-GCTTGCGTTCTGCTTCCAT |
| Pt-GPCR-A29 | F-TGCTGGAGGAGGTGCTTACTTR-CGTCTGTTTCGCTGGAACTTATTG |
| Pt-GPCR-A32 | F-AGAGGGTGGTGAAGATGGTGAR-GTTGAGGGCGGAGTTGGA |
| Pt-GPCR-A33 | F-CTTACGAGGCGGACAGCAACR-GGTGAGTTCCCAGGCGACA |
| Pt-GPCR-A34 | F-AGGGTCACGTACAATTCCTGGR-TTCGCTTCTGAGCCTCTTTG |
| Pt-GPCR-A36 | F-CGCTTCGGCTTCGTCTACTGR-ACGATGAGGATGGTGGCTTTC |
| Pt-GPCR-A37 | F-ACAGGCGGCTCCTCAACCR-CCGAAGGCAAGGGTCCAAGT |
| Pt-GPCR-A39 | F-TTGCTACCCGCTATCAAACTGR-CGGAATGAAAGACGCCCAAC |
| Pt-GPCR-B2 | F-GGCACTTCGGTCTCCTTCACR-GAGTAGTCTGTTATCTCCGCTCC |
| Pt-GPCR-B4 | F-GCGGACTTAGGGTGGGAGR-TCAGGGAGTGGAATCTGTGC |
| Pt-GPCR-B5 | F-GTTCGACGGCGTGTCCTGR-CGGCGGGTTGGTAATGG |
| Pt-GPCR-B6 | F-CCTCAACTTTCATTCCGCCTTGTR-CGCCGCACTCCTTCCTCCT |
| Pt-GPCR-B7 | F-CCAGCAGGCGAAGAAGGR-GGTGAGGAAAGTGGTAACGAAAGA |
| Pt-GPCR-B8 | F-TGCTTCACCAAACCCATACAGGR-GCGAAAGACTCAGGCCGATTA |
| β-actin | F-CGAAACCTTCAACACTCCCGR-GGATAGCGTGAGGAAGGGCATA |