Table S2. The list and the nucleotide sequences of 34 OBPs of *P. akamusi* identified in present study.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Unigene | Gene name | Accession number | ORF(bp) | Complete ORF | Blastx annotation | Score | e\_value | Identity (%) |
| Unigene5544\_All | PaOBP1 | MN132992 | 438 | Yes | gi|573006056|gb|AHF71056.1|/5.38028e-07/odorant-binding protein 25 *[Lygus lineolaris]* | 61.23 | 5.7e-17 | 29.95 |
| Unigene2192\_All | PaOBP2 | MN132993 | 429 | Yes | gi|1000196531|gb|KXJ71014.1|/8.02266e-21/hypothetical protein RP20\_CCG021771 *[Aedes albopictus]* | 105.92 | 8.02e-21 | 43.59 |
| Unigene2198\_All | PaOBP3 | MN132994 | 519 | Yes | gi|573006056|gb|AHF71056.1|/3.06836e-08/odorant-binding protein 25 *[Lygus lineolaris]* | 63.54 | 5.4e-07 | 29.95 |
| Unigene8580\_All | PaOBP4 | MN132995 | 342 | Yes | gi|668462257|gb|KFB49726.1|/3.20749e-25/AGAP012321-PA-like protein *[Anopheles sinensis]* | 118.63 | 3.2e-25 | 45.6 |
| Unigene16967\_All | PaOBP5 | MN132996 | 318 | No | gi|668451132|gb|KFB40313.1|/1.18954e-08/odorant binding protein (AGAP007289-PA) *[Anopheles sinensis]* | 63.54 | 3.5e-08 | 26.83 |
| Unigene4956\_All | PaOBP6 | MN132997 | 348 | Yes | gi|1000196531|gb|KXJ71014.1|/5.14476e-18/hypothetical protein RP20\_CCG021771 *[Aedes albopictus]* | 95.52 | 5.1e-18 | 40.71 |
| Unigene4999\_All | PaOBP7 | MN132998 | 483 | Yes | gi|1000210466|gb|KXJ80437.1|/7.98036e-16/hypothetical protein RP20\_CCG024996 *[Aedes albopictus]* | 87.42 | 3.7e-05 | 37.21 |
| Unigene19816\_All | PaOBP8 | MN132999 | 393 | Yes | gi|195108539|ref|XP\_001998850.1|/7.54395e-20/Odorant-binding protein 99a *[Drosophila mojavensis]*  | 99.37 | 3.7e-19 | 38.64 |
| Unigene19940\_All | PaOBP9 | MN133000 | 417 | No | gi|157103281|ref|XP\_001647907.1|/7.82221e-22/AAEL000035-PA, partial *[Aedes aegypti]*  | 108.61 | 7.8e-22 | 37.16 |
| Unigene19203\_All | PaOBP10 | MN133001 | 339 | No | gi|1000196531|gb|KXJ71014.1|/1.14336e-14/hypothetical protein RP20\_CCG021771 *[Aedes albopictus]* | 83.57 | 1.1e-14 | 32.2 |
| CL328.Contig3\_All | PaOBP11 | MN133002 | 414 | Yes | gi|668462264|gb|KFB49733.1|/1.78462e-10/AGAP012318-PA-like protein *[Anopheles sinensis]* | 70.86 | 1.8e-10 | 35.87 |
| Unigene19633\_All | PaOBP12 | MN133003 | 264 | No | gi|340396202|gb|AEK32391.1|/1.87767e-09/plus-C odorant-binding protein 2 *[Culex quinquefasciatus]* | 64.70 | 5.5e-09 | 35.96 |
| Unigene17339\_All | PaOBP13 | MN133004 | 429 | Yes | gi|568251030|gb|ETN60627.1|/2.61652e-06/odorant binding protein *[Anopheles darlingi]* | 55.07 | 4.5e-06 | 37.5 |
| Unigene19933\_All | PaOBP14 | MN133005 | 138 | No | gi|568256504|gb|ETN65011.1|/9.32467e-09/odorant binding protein *[Anopheles darlingi]* | 63.93 | 9.3e-09 | 46.27 |
| Unigene00667\_All | PaOBP15 | MN133006 | 390 | Yes | gi|668462257|gb|KFB49726.1|AGAP012321-PA-like protein *[Anopheles sinensis]* | 100 | 1.90e-25 | 42.28 |
| Unigene02367\_All | PaOBP16 | MN133007 | 927 | Yes | gi|157129473|ref|XP\_001661692.1|odorant-binding protein 58c, putative *[Aedes aegypti]*  | 68 | 1.67e-11 | 31.03 |
| Unigene03103\_All | PaOBP17 | MN133008 | 414 | Yes | gi|568256261|gb|ETN64831.1|odorant binding protein *[Anopheles darlingi]* | 76 | 1.09e-15 | 32.35 |
| Unigene03115\_All | PaOBP18 | MN133009 | 606 | Yes | gi|157129473|ref|XP\_001661692.1|odorant-binding protein 58c, putative *[Aedes aegypti]*  | 82 | 3.04e-17 | 31.21 |
| Unigene03420\_All | PaOBP19 | MN133010 | 549 | Yes | gi|170054451|ref|XP\_001863135.1|general odorant-binding protein 56d *[Culex quinquefasciatus]*  | 83 | 2.56e-18 | 41.90 |
| Unigene03770\_All | PaOBP20 | MN133011 | 303 | Yes | gi|409107008|pdb|3VB1|A|Chain A, Crystal Structure Of *Anopholes Gambiae* odorant Binding Protein 20 In Open State | 104 | 2.14e-27 | 43.97 |
| Unigene04666\_All | PaOBP21 | MN133012 | 429 | Yes | gi|170063778|ref|XP\_001867251.1|odorant-binding protein 56e *[Culex quinquefasciatus]*  | 78 | 1.05e-16 | 32.23 |
| Unigene05906\_All | PaOBP22 | MN133013 | 750 | Yes | gi|662036374|gb|AIE43918.1|odorant-binding protein 29, partial *[Lutzomyia longipalpis]*  | 173 | 6.39e-51 | 42.11 |
| Unigene06716\_All | PaOBP23 | MN133014 | 642 | Yes | gi|157129495|ref|XP\_001661703.1|odorant-binding protein 50d, putative *[Aedes aegypti]*  | 60 | 1.18e-09 | 31.33 |
| Unigene06762\_All | PaOBP24 | MN133015 | 645 | Yes | gi|568251290|gb|ETN60853.1|odorant binding protein *[Anopheles darlingi]* | 80 | 9.32e-17 | 34.95 |
| Unigene07342\_All | PaOBP25 | MN133016 | 465 | Yes | gi|751438043|ref|XP\_011176687.1|PREDICTED: general odorant-binding protein lush isoform X1 *[Bactrocera cucurbitae]* | 139 | 1.22e-39 | 46.15 |
| Unigene07992\_All | PaOBP26 | MN133017 | 429 | Yes | gi|157123243|ref|XP\_001660077.1|odorant binding protein *[Aedes aegypti]*  | 231 | 5.16e-76 | 75.00 |
| Unigene08354\_All | PaOBP27 | MN133018 | 573 | Yes | gi|311707030|gb|ADQ01710.1|odorant binding protein 24 *[Anopheles funestus]* | 72 | 6.25e-14 | 27.08 |
| Unigene09189\_All | PaOBP28 | MN133019 | 561 | Yes | gi|157129477|ref|XP\_001661694.1|odorant-binding protein 47b, putative *[Aedes aegypti]*  | 98 | 4.26e-23 | 33.33 |
| Unigene09193\_All | PaOBP29 | MN133020 | 408 | Yes | gi|157111228|ref|XP\_001651445.1|odorant-binding protein 99c, putative *[Aedes aegypti]*  | 157 | 2.22e-47 | 56.52 |
| Unigene09360\_All | PaOBP30 | MN133021 | 453 | Yes | gi|311707028|gb|ADQ01709.1|odorant binding protein 20 *[Anopheles funestus]* | 145 | 1.75e-42 | 53.28 |
| Unigene10306\_All | PaOBP31 | MN133022 | 579 | Yes | gi|340396202|gb|AEK32391.1|plus-C odorant-binding protein 2 *[Culex quinquefasciatus]* | 90 | 4.29e-20 | 27.66 |
| Unigene10384\_All | PaOBP32 | MN133023 | 426 | Yes | gi|471178529|gb|AGI04314.1|obp14 *[Aedes albopictus]* | 90 | 3.35e-21 | 38.10 |
| Unigene10557\_All | PaOBP33 | MN133024 | 453 | Yes | gi|668462262|gb|KFB49731.1|odorant binding protein 24 *[Anopheles sinensis]* | 62 | 1.17e-10 | 25.20 |
| Unigene11219\_All | PaOBP34 | MN133025 | 426 | Yes | gi|31239625|ref|XP\_320226.1|AGAP012318-PA *[Anopheles gambiae str. PEST]*  | 74 | 2.16e-15 | 35.16 |