

**Table S1 : Effect of mutation on infectivity to mosquito. No significant difference was observed between wild type and mutant.**

| <b>Parasite</b> | <b>Number infections</b> | <b>Average percentage of females with sporozoites in Salivary glands (range)</b> | <b>Average number Salivary gland sporozoites per female x 10<sup>3</sup> (range)</b> |
|-----------------|--------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| WT-F            | 16                       | 52 (11-92)                                                                       | 26.7 (12-57)                                                                         |
| ZIPCO-F         | 11                       | 54 (20-84)                                                                       | 30.2 (15-75)                                                                         |
| ZIPCO-HA        | 3                        | 48 (17-68)                                                                       | 35.7 (12-59)                                                                         |
| WT              | 7                        | Not applicable                                                                   | 23.7 (10-59)                                                                         |
| ZIPCO           | 5                        | Not applicable                                                                   | 12.0 (9-20)                                                                          |
| ZIPCO-ko        | 1                        | 55                                                                               | 15.7                                                                                 |