**Table S1: Primers used in this study:**

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| Forward primer for flanking region of GL50803\_3910 | GTAGTAGGTCAGGCATA |
| Reverse Primer for flanking region of GL50803\_3910 | GTCTGCGAAGTGCTCTGTCAGA |
| Forward primer for flanking region of GL50803\_104250 | ATAGTAGGTCAGGTATG |
| Reverse Primer for flanking region of GL50803\_104250 | GTCTGCGAAGTGCTCTGTTAGG |
| Forward primer for thioredoxins 3910 and 104250 | CACCCCCTTCAGCCCCATTTCCGC |
| Reverse primer for thioredoxins 3910 and 104250 | CTAGAGCATGGCGGCCACGTC |
| Forward primer for candidate thioredoxin GL50803\_9355 | CACCCTCCCCAACATTGACG |
| Reverse primer for candidate thioredoxin GL50803\_9355 | TTAAGCACTATTGAGCTTTC |
| Forward primer for candidate recombinant TrxR | CACCTCCACTCAGCGCCACGTC |
| Reverse primer for recombinant *G*. *lamblia* TrxR | TTACTCCTGCATGGCAAGCC |
| Forward primer for HA-tagged Prx1 | GATCTAGATAGACTTTTGCCAGACTGCC |
| Reverse primer for HA-tagged Prx1 | GATTAATTAATCACGCGTAGTCTGGGACATCGTATGGGTACGCGTAGTCTGGGACATCGTATGGGTACGCGTAGTCTGGGACATCGTATGGGTACTTCTTGAACGTCTTGGAGA |
| Forward primer for HA-tagged β-giardin | CATCTAGAAACCCTTTTTTGCGCGCAAAAATTTGAGCCCAAGTTAAGAAAATAAAAGGATGTCTATGTTCACCTCCAC |
| Reverse primer for HA-tagged β-giardin | CATTAATTAATCACACGCGTAGTCTGGGACATCGTATGGGTACGCGTAGTCTGGGACATCGTATGGGTACGCGTAGTCTGGGACATCGTATGGGTAGTGCTTTGTGACCATCGAG |