

**Table S4-A.** Strains used in this study

Strain	Genotype	Plasmid	Comment
BL21- <i>E.coli Hsp33</i>	$\Delta$ <i>hslo</i> ,	Pet11a containing the <i>hslo</i> gene, <i>Amp</i> resistance	Expression of <i>E.coli Hsp33</i>
BL21- <i>E.coli -TrypOx</i>	$\Delta$ <i>hslo</i> ,	Pet11a containing the chimeric <i>Hsp33-TrypOx</i> gene, <i>Amp</i> resistance	Expression of HHsp33sp33-TrypOx protein
<i>T.brucei</i> Trypox RNAi <i>T. brucei</i>	<i>T. brucei</i> strain 29-13	pZJM vector with the anti-trypOx fragment	Silencing of TrypOx

**Table S4-B.** Sequences of primers and proteins used in this study

Name	Sequence
Tb 927.6.2630 Sense	5'-GGGTCTAGACTTTGACGCAGCTCATAGAC-3'
Tb 927.6.2630 antisense	5'-AAAACGCGTAACGCTAAATATTTTCAGGTT-3'
BL21- <i>E.coli -WT Hsp33</i>	MGSSHHHHHHSSGLVPRGSHMIMPQHDQLHRYLFENFAV RGELVTVSETLQQILENHDYPQPVKNVLAELLVATSLLTAT LKFDGDITVQLQGDGPMNLA VINGNNNQQMRGVARVQGE IPENADLKT LVGNGYVVITITPSEGERYQGVVGLGDTLAA CLEDYFMRSEQLPTRLFIRTDVDGKPAAGGMLLQVMPAQ NAQQDDFDHLATLTETIKTEELLTLPANEVLWRLYHEEEVT VYDPQDVEFKCTCSRERCADALKTLPDEEVDSILAEDGEID MHCDYCGNHYLFNAMDIAEIRNNASPADPQVH
BL21- <i>E.coli -TrypOx</i>	MIMPQHDQLHRYLFENFAVRGELVTVSETLQQILENHDYP QPVKNVLAELLVATSLLTATLKFDGDITVQLQGDGPMNLA VINGNNNQQMRGVARVQGEIPENADLKT LVGNGYVVITIT PSEGERYQGVVGLGDTLAACLEDYFMRSEQLPTRLFIRTD VDGKPAAGGMLLQVMPAQNAQQDDFDHLATLTETIKTE ELLTLPANEVLWRLYHEEEVTVYDPQDVEFKCRCSKNNFL RALVALPEEQLSSLMEETSFRCTFCAKEHVLQPEDWSKLLR DRTSFKK