**Additional file 1**

**Table S1.** Oligonucletiode primer sequences used for construction of the plasmid

|  |  |
| --- | --- |
| Primer | Sequence (5’→3’) |
| pmirGLO-HlActin-Renilla F | AACTTGGTTAGGTACGGCTTCGGACGAAGGCCA |
| pmirGLO-HlActin-Renilla R | CCATGGTGGCTCCAGGTTGACTGTTTAGCTGCAC |
| pmirGLO-HlFer0-Luc2 F | GGCGTAGAGGATCGATCCCGGTTCGACACCCTG |
| pmirGLO-HlFer0-Luc2 R | CCGGATTGCCAAGCTTTTCGTCGGTTATTTCCGG |
| pmirGLO-HlFer1-Luc2 F | GGCGTAGAGGATCGATTTAGGCGCCAAAAATTGAG |
| pmirGLO-HlFer1-Luc2 R | The same reverse primer sequence of pmirGLO-HlFer0-Luc2R |
| pmirGLO-HlFer2-Luc2 F | GGCGTAGAGGATCGAGTTTTAAAGCTATAAACAGCG |
| pmirGLO-HlFer2-Luc2 R | The same reverse primer sequence of pmirGLO-HlFer0-Luc2R |
| pmirGLO-HlFer3-Luc2 F | GGCGTAGAGGATCGAAAGGAAAAGTATAAAAACGGC |
| pmirGLO-HlFer3-Luc2 R | The same reverse primer sequence of pmirGLO-HlFer0-Luc2R |
| pmirGLO-HlFer4-Luc2 F | GGCGTAGAGGATCGAGCGGCGGAATCGTATATAA |
| pmirGLO-HlFer4-Luc2 R | The same reverse primer sequence of pmirGLO-HlFer0-Luc2R |
| pmirGLO-HlFer0-Venus F | The same forward primer sequence of pmirGLO-HlFer0-Luc2F |
| pmirGLO-HlFer0-Venus R | GCCCTTGCTCACCATTTTCGTCGGTTATTTCCGG |
| pmirGLO-HlFer2-Venus F | The same forward primer sequence of pmirGLO-HlFer2-Luc2F |
| pmirGLO-HlFer2-Venus R | The same reverse primer sequence of pmirGLO-HlFer0-VenusR |
| pmirGLO-Venus F | ATGGTGAGCAAGGGCGAGGAG |
| pmirGLO-Venus-*Xho*I R | GACTCTAGACTCGAGTTACTTGTACAGCTCGTCC |
| pmirGLO-sequence F | GTACCCTCTGGTTGCATAGGT |
| pmirGLO-sequence R | AGCCCATAGCGCTTCATAGC |

Hl, *Haemaphysalis longicornis*;Fer, ferritin1; Luc2, firefly luciferase.

Underline denotes the restriction enzyme recognition site mentioned in the primer name.

**Table S2.** Relative luciferase activity of the different *HlFer1* promoter truncates in ISE6 cells exposed to different concentrations of ferrous sulfate

|  |  |
| --- | --- |
|  | **Promoter** |
| **Fe2SO4 concentration (mM)** | **No promoter** | **Fer-F0** | **Fer-F1** | **Fer-F2** | **Fer-F3** | **Fer-F4** |
| **0** | 0.06 ± 0.000ab | 0.01 ± 0.000c1 | 0.10 ± 0.000b | 0.07 ± 0.003ab | 0.08 ± 0.003 ab | 0.03 ± 0.001ac1 |
| **0.1** | 0.07 ± 0.005a | 0.02 ± 0.000b12 | 0.50 ± 0.039 | 0.56 ± 0.019 | 0.40 ± 0.030 | 0.07 ± 0.001ab12 |
| **1** | 0.04 ± 0.007a | 0.06 ± 0.004ab23 | 1.04 ± 0.009 | 1.35 ± 0.002 | 0.80 ± 0.001 | 0.09 ± 0.000b2 |
| **2** | 0.05 ± 0.010a | 0.11 ± 0.008b3 | 0.35 ± 0.022 | 0.96 ± 0.030 | 0.46 ± 0.005 | 0.08 ± 0.027 ab2 |

Rows with the same letter superscript and columns with the same numerical subscript are not significantly different at *P*<0.05.