

**Table S1.** Primers used in this work.

| Primer usage                   | Primer name           | Primer sequence (5'- 3')                     |
|--------------------------------|-----------------------|--|
| <b>Synthesis of dsRNA</b>      | T7-L2-F               | taatacgactcactatagggCTCTACGCCGACTCGCCCTACCAC |
|                                | T7-L2-R               | taatacgactcactatagggTCGGCGATTCATCTTTCATTTCTG |
| <b>qPCR</b>                    | T7-3C-F               | taatacgactcactatagggCCGACAACCATGTTTCAC       |
|                                | T7-3C-R               | taatacgactcactatagggTCCATTCTTGCAGCAGTAT      |
|                                | q-L2-F                | GCAGCGGGAGGGCGGAGAT                          |
|                                | q-L2-R                | GGGGCGGCATGGTGGTTGT                          |
|                                | q-3C-F                | CCCTGCTATTATCTGTGG                           |
|                                | q-3C-R                | ATTTAGGCTATGGGACAC                           |
|                                | q-18S-F               | GTAACCCGCTGAACCTCCT                          |
|                                | q-18S-R               | TCCGAAGACCTCACTAAATC                         |
|                                | q-HCA-F               | GTGAGCAGATTAGGATTGTG                         |
|                                | q-HCA-R               | AAGGCGATGAAGAGCAATA                          |
|                                | q-HCB-F               | CAGCATCACGATTGACTTC                          |
|                                | q-HCB-R               | TACTTCCGCAACAGCATT                           |
|                                | <b>Clone segments</b> | full-L2-F                                    |
| full-L2-R                      |                       | GACTGAGATGATCGCTTGA                          |
| full-3C-F                      |                       | GTTTGAAAGTGGTTGGTGAA                         |
| full-3C-R                      |                       | GCTCATCAAGAACACATACC                         |
| prom-3C-F                      |                       | ATGAAGACAGTATTGTGCTG                         |
| prom-3C-R                      |                       | TTCACCAACCACTTTCAAAC                         |
| <b>Construction of vectors</b> | L2-ATG-XhoI-F         | ctcgagATGGTGTCTCATCTGCTACCAGAC               |
|                                | L2-CG-BamHI-R         | ggatccCGCGACATGAAACACTTTGGTC                 |
|                                | L2-TGA-BamHI-R        | ggatccTACGACATGAAACACTTTGGTC                 |
|                                | EGFP-ATG-NotI-F       | gcggccgcATGGTGAGCAAGGGCGAGG                  |
|                                | EGFP-TAA-XbaI-R       | tctagaTTACTTGTACAGCTCGTCCATGCC               |

|                               |   |   |    |   |    |   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |
|-------------------------------|---|---|----|---|----|---|----|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|
|                               |   | * | 20 | * | 40 | * | 60 | * | 80 | * |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |
| <i>Nilaparvata lugens</i>     | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | M | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | R | V | R | E | G | G | D | R | K | C | S | Y | W | T | L | H | S | S | G | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R | : | 97 |    |    |    |
| <i>Aedes aegypti</i>          | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | M | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | V | K | I | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | Y | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R | :  | 98 |    |    |
| <i>Culex quinquefasciatus</i> | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | M | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | V | K | I | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | Y | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R | :  | 98 |    |    |
| <i>Anopheles gambiae</i>      | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | M | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | V | K | I | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | Y | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R | :  | 98 |    |    |
| <i>Tribolium castaneum</i>    | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | H | S | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | V | K | I | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | Y | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R  | :  | 98 |    |
| <i>Fopius arisanus</i>        | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | H | S | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | L | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | Y | D | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R  | :  | 98 |    |
| <i>Plutella xylostella</i>    | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | Q | T | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | H | C | G | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R  | :  | 98 |    |
| <i>Bombyx mori</i>            | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | Q | T | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | C | G | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K | R  | :  | 98 |    |
| <i>Papilio machaon</i>        | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | Q | T | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | Q | C | R | G | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Xenopus laevis</i>         | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | Q | T | K | R | A | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Oreochromis niloticus</i>  | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Danio rerio</i>            | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Gallus gallus</i>          | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Felis catus</i>            | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Sus scrofa</i>             | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Mus musculus</i>           | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |
| <i>Homo sapiens</i>           | : | K | P  | P | Y  | S | V  | A | L  | I | A | M | A | T | Q | N | S | S | S | E | K | R | L | T | I | S | E | T | I | S | T | R | F | P | F | Y | E | K | N | K | K | G | W | Q | N | S | I | R | H | N | L | S | L | N | K | F | I | K | V | R | E | G | G | G | B | R | K | G | N | Y | W | T | L | D | E | A | C | E | D | M | F | E | N | G | N | F | K | R | R | R | R | M | K  | R  | :  | 98 |

**Figure S1.** Alignment of 17 FoxL2 orthologs.

*NlFoxL2* was aligned with FoxL2 orthologs from 16 other insect species using the ClustalX program.