

Supporting Information

Figure S1. *D. ananassae* HTRs without the MHR domain. a) Dot-matrix comparisons of the nucleotide sequence of *Dana*\HTRX, *Dana*\HTRY and *Dana*\HTRZ (Each element is compared with itself) .The three-frame ORF maps are indicated. b) Comparison of amino acid sequences from *Dana*\HTRX, *Dana*\HTRY, *Dana*\HTRZ and others TRs and HTRs. For each protein, the region shown encompasses the MHR domain and the first zinc knuckle.

Figure S2. Dot-matrix comparisons of *Dana*\TR2A, *Dana*\HTR2A, *Dper*\TR1A and *Dper*\HTR1A. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S3. Dot-matrix comparisons of *Dper*\TR3A, *Dper*\HTR3A, *Dper*\TR3B and *Dper*\HTR3B. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S4. Dot-matrix comparisons of *Dper*\TR2A, *Dper*\TR4A, *Dmoj*\TR1Ba and *Dmoj*\HTR2Aa. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S5. Dot-matrix comparisons of *Dmoj*\TR1Ab, *Dmoj*\HTR1Ab, *Dmoj*\TR1C and *Dmoj*\HTR1C. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S6. Dot-matrix comparisons of *Dmoj*\TR1D, *Dmoj*\HTR1D, *Dmoj*\TR1E and *Dmoj*\HTR1E. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S7. Dot-matrix comparisons of *Dmoj\TR3A*, *Dmoj\HTR3Ba* and *Dmoj\HTR3Ca*. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S8. Dot-matrix comparisons of *Dvir\HTR0B*, *Dvir\TR1A*, *Dvir\TR1B*, *Dvir\TR2C*, *Dvir\TR2B* and *Dvir\H'TR2B*. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S9. Dot-matrix comparisons of *Dgri\TR2Aa*, *Dgri\HTR2B* and *Dgri\HTR2C*. Each element is compared with itself. The three-frame ORF maps are indicated. ORF1 appears in green and ORF2 in orange.

Figure S10. Sequence alignments of the entire RT domains from ORF2-*TRs*. The alignments were performed with ClustalX, followed by manual adjustments.

Figure S11. Sequence alignments of the MHR, the zinc knuckles and the leucine zipper-like domains from ORF1-*TRs* and *HTRs*. The alignments were performed with ClustalX, followed by manual adjustments.

Figure S12. Nucleotide sequence of the reconstructed *Dyak\TAHRE* and *Dere\TAHRE*. Sequences more than 97% identical to each other were connected.

Table S1. Primers used for PCR amplification and sequencing of *TRs* and *HTRs* in the *D. melanogaster* species subgroup.

Table S2. Localization of *TRs* and *HTRs* used in this work. In the table appears the name of the element and the coordinates within its corresponding scaffold.