

Supplementary Table S1

List of primers*

a. For cDNA cloning

- | | |
|----------|---|
| 1. DHR | F: 5'-CGTCACGTAACGTCAACATTCGCGGTACGC-3'
R: 5'-TAATTACTTACTAAAACGGAATGTATTTG-3' |
| 2. TRPA1 | F: 5'-GTCATGACATTTGTGGAACAACGGCCTA-3'
R: 5'-TCAAGTCGACTTGTAAATGATGCAGCTCG-3' |
-

b. For screening of the $\Delta TRPA1$ mutant

- | | |
|--|--|
| | F: 5'-AGTTTTTTGTACAGGCTGCTGAAAGCGGA-3'
R: 5'-TCTCGGTTGCATCGCCAATAAGC-3' |
|--|--|
-

*F; Forward primer, R; Reverse primer.

a

```

BmoDH; TDMKDESDRGAHSERGA LWFGPRL 24
BmaDH; TDMKDESDRGAHSERGA LWFGPRL 24
*****

```

b

```

                                     TM1
BmoDHR; MNS--ETINDTANASRPVDSTRVFGPQRDTLYIVLPITIIYTFIFVSGLLGNIPTCIVV 58
BmaDHR; MNSLNETLNDTANASRPVDSTRVFGPQRDTLYIVLPITIIYTFIFISGLLGNIFTCIVV 60
*****

          TM2                                TM3
BmoDHR; RNKNLHTATNYLFLSLAISDLLLVSGMPQEMYSIWSKWPYVFGHTFCVIRGLAAETSTN 118
BmaDHR; RNKNLHTATNYLFLSLAISDLLLVSGMPQEMYSIWSKWPYVFGHTFCVIRGLAAETSTN 120
*****

                                     TM4
BmoDHR; ASVLTITLFTIERYLAICHFPVSHKMSKLSRAVKHVLLWVAALALALPQALQFGIRQYQ 178
BmaDHR; ASVLTITLFTIERYLAICHFPVSHKMSKLSRAVKHVLLWVAALALALPQALQFGIRQYQ 180
*****

          TM5
BmoDHR; GVIMCLQTRVIEHSFEISTFVFLAPMVLITVLYSFIGLKLREKSNVKEQNQDFESSI 238
BmaDHR; GVIMCLQTRVIEHSFEISTFVFLAPMVLITVLYSFIGLKLREKSNVKEQNQDFESSI 240
*****

          TM6
BmoDHR; RYSHKMRKPSQSTRRVIKMLVAVVVAFFICWAPFHAQRLVAIYGTNENHLAKSPILFSV 298
BmaDHR; RYSHKMRKPSQSTRRVIKMLVAVVVAFFICWAPFHAQRLVAIYGTNENHLAKSPILFSV 300
*****

          TM7
BmoDHR; YLFLTYISGIFYYMSTCINPILYHIMSNKFRDAFKMTLCCGTRNDTAVKRSSYTAMAFV 358
BmaDHR; YLFLTYISGICYMSTCINPILYHIMSNKFRDAFKMTLCCGTRNDTAVKRSSYTAMAFV 360
*****

BmoDHR; RHPTSSGTSNSGNSIRNETNLQSKTRTRTNGRDKILNDAHVCNGTLSSAAVGKPDSTRNG 418
BmaDHR; RNPTSSGTSNSGNSIRNETNLQSKTRTRTNSRDKILNDAHVCNGTLSSAAVGKPDSTRNG 420
* *****

BmoDHR; DRPLDRNLINETYFNTNC 436
BmaDHR; DRPLDRNLINETYFNTNC 438
*****

```

Supplementary Figure S1. Alignments of amino acid sequences of diapause hormone (DH) and DH receptor (DHR). The deduced amino acid sequences of *DH-PBAN* (a) and *DHR* (Acc. No. LC594680) (b) cDNAs in *Bombyx mori* (Bmo) and *B. mandarina* (Bma) were aligned. Identical amino acids are indicated by asterisks. The putative transmembrane domains (TM1~TM7) are indicated.

