**Padiglia et al. Supporting Information Available**

**Figure Legends**

**Supplemental Figure 1.** Comparison of the deduced amino acid sequence of *Euphorbia characias* peroxidase with other peroxidases from plants. Conserved residues are shown in grey. Dashes indicate gaps in alignment. Sense (➡) and antisense (⬅) CODEHOP primers are in bold. Sequences were aligned using CLUSTAL W 1.82 (http://www.ebi.ac.uk/clustalw), and include signal peptide portions. GenBank accession numbers for the sequences are as follows: *Euphorbia characias*, AY586601; *Linum usitatissimum*, U59284; *Arabidopsis thaliana*, X98318; *Nicotiana tabacum*, AY032674; *Phaseolus angularis* D11337; *Glycine max*, AF145350.


**Supplemental Figure 2.** Comparison of the deduced amino acid sequence of *Euphorbia characias* CaM with other CaMs from plants. Conserved residues are shown in grey. Sense (➡) and antisense (⬅) CODEHOP primers are in bold. GenBank accession numbers for the sequences are as follows: *Euphorbia characias*, AY297816; *Prunus avium*, AF292108; *Elaeis guineensis*, AF295637; *Medicago truncatula*, AF494219; *Pisum sativum*, U13882; *Phaseolus vulgaris*, AF030034; *Nicotiana tabacum*, AB050848.


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# Supplemental Figure 1

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Euphorbia    --------MASKLVLVSCLLVAFWFCAIEAQTKP----PIVNGLSWTFYKSSCPKVESII   48
Linum        -----MAPTSSHVVALTIMLSAV-LFASTTTAQIP---APAKGMSWTFYKSSCPKLESII   51
Arabidopsis  MTKAYSTRVLTFLILISLMAVTLNLFPTVEAKKRSRDAPIVKGLSWNFYQKACPKVENII   60
Nicotiana    -----MASITLSSFAASLLLILSVNFYQTEAQGTQ---PIVKGLSWTFYDSICPNAESII   52
Phaseolus    MASISSNKNAIFSFLLLSIILSVSVIKVCEAQARP---PTVRGLSYTFYSKTCPTLKSIV   57
Glycine      ------ARSSAYPLFLISSILFISHIYASQVEAKP---PVVKGLSYSFYSKTCPKLESIV   51

Euphorbia    QKELKKLFKKDVEQAAGLLRLHFHDCFVLGCDGSVLLNGSAGGP-SEQSELPNLSLRKQA  107
Linum        TKRLKEVFKKDIGQAAGLLRLHFHDCFVEGCDGSVLLTGSAGGPSAEQGSPPNLSLRKEA  111
Arabidopsis  RKELKKVFKRDIGLAAAILRIHFHDCFVQGCEASVLLAGSASGP-GEQSSIPNLTLRQQA  119
Nicotiana    RSRLQQVFRQDIGQAAGLLRLHFHDCFVQGCDGSVLLDGSASGP-SEKDAPPNLTLRQQA  111
Phaseolus    RTELKKVFQSDIAQAAGLLRLHFHDCFVQGCDGSVLLDGSASGP-SEKDAPPNLTLRAEA  116
Glycine      RKHLKKVFKDDNGQAPALLRIFFHDCFVQGCDGSLLLDGS---P-SERDQPANGGIRTEA  107
                               ➔

Euphorbia    FKIVNDLRALVHKECGPVVSCSDIVAIAARDSVVLTGGPKYDVPLGRRDGVKFAEVNATF  167
Linum        FRIIDDLRARVHKECGRVVSCSDIVALAARDSVVLSGGPKYQVALGRRDGTTLVTQDTTL  171
Arabidopsis  FVVINNLRALVQKKCGQVVSCSDILALAARDSVVLSGGPDYAVPLGRRDSLAFASQETTL  179
Nicotiana    FRIIEDLRRRVHRDCGRVVSCADITAIAARDSVFLSGGPDYDLPLGRRDGLNFATRNETL  171
Phaseolus    FRIIERIRGLLEKSCGRVVSCSDITALAARDAVFLSGGPDYEIPLGRRDGLTFASRQVTL  176
Glycine      LQTIDDIRAIIHKECGRIVSCADITVLAARDSVFLTGGPDYAVPLGRRDGLSFSTSGT-  165

Euphorbia    EHLVGPTANVTTILAKLARKGLDTTDAVSLSGGHTIGIGHCTSFTERLYPSQDPTLDKTF  227
Linum        ANLPPPFATTGTILSSLATKNLNPTDAVALSGAHTIGISHCSSFTDRLYPNQDPSMDQTF  231
Arabidopsis  NNLPPPFFNASQLIADFANRNLNITDLVALSGGHTIGIAHCPSFTDRLYPNQDPTMNQFF  239
Nicotiana    ANLPPPSFNASAILTSLATKNFTPTDVVALSGGHTIGIGHCTSFTERLYPNQDPSMDKTF  231
Phaseolus    DNLPPPSSNTTTILNSLATKNLDPTDVVSLSGGHTIGISHCSSFNNRLYPTQDPVMDKTF  236
Glycine      SDLPKPFNTTGVTLDAFAAKNFDVTDVVALSGAHTFGRAHCGTFFNRLSP-LDPNMDKTL  224

Euphorbia    ANNLKRTCPNVNTENSTFLDRTPNEFDNRYYVDLMNRQGLFTSDQDLYTDKRTRQIVID  287
Linum        AKNLKATCPQAATTDN-IVDIRSPNVFDNKYYVDLMNRQGLFTSDQDLYTDSRTRGIVTS  290
Arabidopsis  ANSLKRTCPTANSSNTQVNDIRSPDVFDNKYYVDLMNRQGLFTSDQDLFVDKRTRGIVES  299
Nicotiana    ANNLKNTCPTSNSTNTTVLDIRSPNKFDNKYYVDLMNRQGLFTSDQDLYTDRRTRGIVTS  291
Phaseolus    GKNLRLTCPTNTTDNTTVLDIRSPNTFDNKYYVDLMNRQGLFTSDQDLYTDKRTRGIVTS  296
Glycine      AKQLQSTCPDANSGNTANLDIRTPTVFDNKYYLDLMNRQGVFTSDQDLLNDKRTKGLVNA  284
                                       ←

Euphorbia    FAVNQTLFYEKFIIGMIKMGQLEVVTGNQGEIRNDCSFRNSD-----NYLVSVTDEESGS  342
Linum        FAINQTLFFEKFVVAMIKMGQISVLTGKQGEIRANCSVTNSAKVQTSSFLEEAVEEAVEL  350
Arabidopsis  FAIDQQLFFDYFTVAMIKMGQMSVLTGTQGEIRSNCSARNTQS------FMSVLEEGIEE  353
Nicotiana    FAINESLFFEEFVNSMIKMGQLNVLTGTQGEIRANCSVRNSANYN-LLLSTSVAEEQQRT  350
Phaseolus    FAVNQSLFFEKFVFAMLKMGQLSVLTGNQGEIRANCSVRNANS---KAFLSSVVENVAQE  353
Glycine      FALNQTLFFEKFVDATIKLSQLDVLTGNQGEIRGKCNVVNARK----SLLTSVVEEVVQL  340

Euphorbia    SSELR  347
Linum        LAGMR  355
Arabidopsis  AISMI  358
Nicotiana    WSEI-  354
Phaseolus    FIEM-  357
Glycine      VDQF-  344
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**Supplemental Figure 2**

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Euphorbia   MADQLTDDQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Prunus      MADQLTDDQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Elaeis      MADQLTDDQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Medicago    MADQLTDDQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Pisum       MADQLTDDQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Phaseolus   MADQLTDEQISEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMINEVDADG   60
Nicotiana   MAEQLTEEQIAEFKEAFSLFDKDGDGCITTKELGTVMRSLGQNPTEAELQDMISEVDADQ   60
                             →

Euphorbia   NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTDE  120
Prunus      NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTDE  120
Elaeis      NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTDE  120
Medicago    NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTDE  120
Pisum       NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTDE  120
Phaseolus   NGTIDFPEFLNLMARKMKDTDSEEELKEAFRVFDKDQNGFISAAELRHVMTNLGEKLTYE  120
Nicotiana   NGTIDFPEFLNLMARKMKDTDSEEELKEAFKVFDKDQNGFISAAELRHVMTNLGEKLTDE  120

Euphorbia   EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Prunus      EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Elaeis      EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Medicago    EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Pisum       EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Phaseolus   EVDEMIREADVDGDGQINYEEFVKVMMAK  149
Nicotiana   EVDEMIREADIDGDGQVNYEEFVRMMLAK  149
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