```
1       aagttagtttcactttctctgaatgttgttgcgcagcttgtttcctccatctgaacctccagctgaaggtgaaag
76      tgtgtgagctgatgtggatgtgagttcagcagcATGGATCAGTGTGAGGACAGAGAGGAGGGAGTCCGTCCCTCT
1                                          M  D  Q  C  E  D  R  E  E  G  V  R  P  S
151     AAAACCTCTCTCAAAGCTCAGAGCCCAGAGAAGCAGCAGGGACCAGACTCTGCTGGACCTGGACCTGAACCTGGA
15       K  T  S  L  K  A  Q  S  P  E  K  Q  Q  G  P  D  S  A  G  P  G  P  E  P  G
226     GCTGGACCTGGAGCTGGAGCTGAACCTGGACCTGGACCTGGAGCTGAACCTGGACCTGGACCCAGCTGTGTGTCC
40       A  G  P  G  A  G  A  E  P  G  P  G  P  G  A  E  P  G  P  G  P  S  C  V  S
301     TTCAAGAGCGACCGGTCAAATGATCGACTCATTGAATTTAAAGGAGAACAACCGTCTGCTCCACAGAGAGTCGAC
65       F  K  S  D  R  S  N  D  R  L  I  E  F  K  G  E  Q  P  S  A  P  Q  R  V  D
376     CAGCAGAGCTCAGAGGTTCCCAGTGGTCAGTCAGCCCAGCAGCATCAAACACACCTGGACTCCATATTTATGCTG
90       Q  Q  S  S  E  V  P  S  G  Q  S  A  Q  Q  H  Q  T  H  L  D  S  I  F  M  L
451     CTGGAGGAGAACATTGTCACTTTTGTGAAGAACGAGCTGAAGAAGTTCAAGAAGGATCTGAGCTCAGGTTACCCA
115      L  E  E  N  I  V  T  F  V  K  N  E  L  K  K  F  K  K  D  L  S  S  G  Y  P
526     GAATGCTTAGAGAGTCAGAGGGAGGATGAGGAGGTGTTGGACGGTGAGGATGAAGAGCAGAGGAGGAGCAGCAGA
140      E  C  L  E  S  Q  R  E  D  E  E  V  L  D  G  E  D  E  E  Q  R  R  S  S  R
601     GAGGCCTTTCTGAAGATCACACAGAACTTCCTGAGGAGAATGAAGCAGGAGGAGCTGGCTGACCGTCTGCAGAGC
165      E  A  F  L  K  I  T  Q  N  F  L  R  R  M  K  Q  E  E  L  A  D  R  L  Q  S
676     AAACTTGATCCAGTTTGTTTCCAGCGTAAACTTAAATCTAACCTGAAGAAGAAGTTTCAGTGTGTGTTTGAGGGC
190      K  L  D  P  V  C  F  Q  R  K  L  K  S  N  L  K  K  K  F  Q  C  V  F  E  G
751     ATCACTAAAGCAGGAAACCCAACCCTTCTGAATCAGATCTACACAGAGCTCTACATCACAGAGGGAGGGACTGCA
215      I  T  K  A  G  N  P  T  L  L  N  Q  I  Y  T  E  L  Y  I  T  E  G  G  T  A
826     GGGGTCAATGATGAACATGAGGTCAGACAGATCGAAACAGCATCCAGGAAACCAGACAGACCAGAAACAACAATC
240      G  V  N  D  E  H  E  V  R  Q  I  E  T  A  S  R  K  P  D  R  P  E  T  T  I
901     AGACAAGAAGACATCTTTAAAGCCTCAACTGGAAGAGATGAACCAATCAGAACAGTGATGACAAAGGGAGTGGCT
265      R  Q  E  D  I  F  K  A  S  T  G  R  D  E  P  I  R  T  V  M  T  K  G  V  A
976     GGCATTGGGAAAACAGTCTTAACACAGAAGTTCACTCTGGACTGGGCTGAAGACAAAGCCAACCAGGACATACAG
290      G  I  G  K  T  V  L  T  Q  K  F  T  L  D  W  A  E  D  K  A  N  Q  D  I  Q
1051    TTCACATTTCCATTCACTTTCAGAGAGCTGAATGTGCTGAAAGAGAGAAAGTTCAGCTTGGTGGAACTTGTTCAT
315      F  T  F  P  F  T  F  R  E  L  N  V  L  K  E  R  K  F  S  L  V  E  L  V  H
1126    CACTTCTTTACTGAAACCAAAGAAGCAGGAATCTGCAGGTTTGAAGAGTTCCAGGTTGTGTTCATCTTTGACGGT
340      H  F  F  T  E  T  K  E  A  G  I  C  R  F  E  E  F  Q  V  V  F  I  F  D  G
1201    CTGGATGAGTGTCGACTTCCTCTGGACTTCCACAACAATCAGATCCTGACTGATGTTACAGAGTCCACCTCAGTG
365      L  D  E  C  R  L  P  L  D  F  H  N  N  Q  I  L  T  D  V  T  E  S  T  S  V
1276    GATGTGCTGCTGACAAACCTCATCAGGGGGAAACTGCTTCCCTCTGCTCGTCTCTGGATAACCACACGACCTGCA
390      D  V  L  L  T  N  L  I  R  G  K  L  L  P  S  A  R  L  W  I  T  T  R  P  A
1351    GCAGCCAATCAGATCCCTCCTGAGTGTGTTGACATGGTGACAGAGGTCAGAGGGTTCACTGACCCACAGAAGGAG
415      A  A  N  Q  I  P  P  E  C  V  D  M  V  T  E  V  R  G  F  T  D  P  Q  K  E
1426    GAGTACTTCTGGAAGAGATTCAGAGATAAAAAGAAGGCCAGAAGAATCATCTCCCACATCAAGACATCACGAAGC
440      E  Y  F  W  K  R  F  R  D  K  K  K  A  R  R  I  I  S  H  I  K  T  S  R  S
1501    CTCCACATCATGTGCCACATCCCAGTCTTCTGCTGGATCACTGCTACAGTTCTGGAGGATGTGTTGAAAACCAGA
465      L  H  I  M  C  H  I  P  V  F  C  W  I  T  A  T  V  L  E  D  V  L  K  T  R
1576    GAGGGAGGAGAGCTGCCCAAGACCCTGACTGAGATGTACATCCACTTCCTGGTGGTTCAGTCCAAACTGAAGAAC
490      E  G  G  E  L  P  K  T  L  T  E  M  Y  I  H  F  L  V  V  Q  S  K  L  K  N
1651    ATCAAGTATGATGGAGGAGCTGAGACAGATCCACACTGGAGTCCAGAGAGCAGGAAGATGATTGAGTCTCTGGGA
515      I  K  Y  D  G  G  A  E  T  D  P  H  W  S  P  E  S  R  K  M  I  E  S  L  G
1726    AAACTGGCTTTTGATCAGCTGCAGAAAGGAAACCTGATCTTCTATGAATCAGACCTGACAGAGTGTGGCATCGAT
540      K  L  A  F  D  Q  L  Q  K  G  N  L  I  F  Y  E  S  D  L  T  E  C  G  I  D
1801    ATCAGAGCAGCCTCAGTGTACTCAGGAGTGTTCACACAGATCTTTATAGAGGAGAGAGGACTGTACCAGGACAAG
565      I  R  A  A  S  V  Y  S  G  V  F  T  Q  I  F  I  E  E  R  G  L  Y  Q  D  K
1876    GTGTTCTGCTTCGTCCATCTGAGTGTTCAGGAGTTTCTGGCTGCTCTTCATGTTCATCTGACATTCATCAACTCT
590      V  F  C  F  V  H  L  S  V  Q  E  F  L  A  A  L  H  V  H  L  T  F  I  N  S
1951    GGAGTCAATCTGTTGTCAGAAGAACAATCAACCTCCCAGAAGTCTGAAACAAGAAAAGAAGAATCTGCAGAGACA
615      G  V  N  L  L  S  E  E  Q  S  T  S  Q  K  S  E  T  R  K  E  E  S  A  E  T
2026    CACTTCTACCAGAGTGCTGTGGACAAGGCCTTACAGAGTCCAAATGGACACCTGGACTTGTTCCTCCGCTTCCTC
```

```
640     H  F  Y  Q  S  A  V  D  K  A  L  Q  S  P  N  G  H  L  D  L  F  L  R  F  L
2101    CTGGGTCTTTCTCTGCAGACCAATCAGACTCTCCTACGAGGCCTGCTGACACAGACAGGAAGTAGCTCACAGACC
665     L  G  L  S  L  Q  T  N  Q  T  L  L  R  G  L  L  T  Q  T  G  S  S  S  Q  T
2176    AATCAGGAAACAGTCCAGTACATCAAGAAGAAGATTGAAGAGACTCCCTCTGCAGAGAAAAGCATCAATCTGTTC
690     N  Q  E  T  V  Q  Y  I  K  K  K  I  E  E  T  P  S  A  E  K  S  I  N  L  F
2251    CACTGTCTGAATGAACTGAATGATTGTTCTCTAGTGGATCAGATCCAACAGTACCTGAGTTCAGGAAGTCTCTCC
715     H  C  L  N  E  L  N  D  C  S  L  V  D  Q  I  Q  Q  Y  L  S  S  G  S  L  S
2326    ACAGATAAACTGTCTCCTGCTCAGTGGTCAGCTCTGGTCTTCATCTTACTGTCATCAGAAAAAGATCTGGACGTG
740     T  D  K  L  S  P  A  Q  W  S  A  L  V  F  I  L  L  S  S  E  K  D  L  D  V
2401    TTTGACCTGAAGAAATACTCTGCTTCAGAGGAGGCTCTTCTGAGGCTGCTGCCAGTGGTTGAAGTCTCCAACAAA
765     F  D  L  K  K  Y  S  A  S  E  E  A  L  L  R  L  L  P  V  V  E  V  S  N  K
2476    GCTCTACTGAGTGGCTGTAACCTCTCCGACAGAAGTCTTGAAGCTCTGTCCTCAGTTCTCAGCTCCCAGTCCTCT
790     A  L  L  S  G  C  N  L  S  D  R  S  L  E  A  L  S  S  V  L  S  S  Q  S  S
2551    AGTCTGAGAGAGCTGGACCTGAGTAACAACAACTTGCAGGATTCAGGAGTGAAGCTGCTGTCTGCTGGGGTGGAG
815     S  L  R  E  L  D  L  S  N  N  N  L  Q  D  S  G  V  K  L  L  S  A  G  V  E
2626    AGTCCACACTGTACACTGGAAACTCTCAGGCTGTCAGGCTGTCTGATCACAGAGGAAGGCTGTGCTTCTCTGGCC
840     S  P  H  C  T  L  E  T  L  R  L  S  G  C  L  I  T  E  E  G  C  A  S  L  A
2701    TCAGCTCTGAGCTCCAACCCCTCTCATCTGAGAGAGCTGGACCTGAGCTACAATCATCCAGGAGATTCAGGAGTG
865     S  A  L  S  S  N  P  S  H  L  R  E  L  D  L  S  Y  N  H  P  G  D  S  G  V
2776    AAGCTGCTGTCTGCTGGACACTGGAGACTGGACACTCTCAGGGTGGAGCCTGGTGGAGTCCGATGGTTGACACCA
890     K  L  L  S  A  G  H  W  R  L  D  T  L  R  V  E  P  G  G  V  R  W  L  T  P
2851    GGTCTGAGGAAGTATTCCTGTGAACTCACAATCGACACAAACACAGTCAACAGAGAGATCAAACTGTCTGACAAC
915     G  L  R  K  Y  S  C  E  L  T  I  D  T  N  T  V  N  R  E  I  K  L  S  D  N
2926    AACAGGAAGGTGACACATGTGGAGGAGGTTCAGTCATATCCTGATCATCCAGACAGGTTTGACCCCTATCCTCAG
940     N  R  K  V  T  H  V  E  E  V  Q  S  Y  P  D  H  P  D  R  F  D  P  Y  P  Q
3001    CTGCTGTGTAGAAATGTTCTGACTGGTCGCTGTTACTGGGAGGTCGAGTGGAGAGGAAGAGTTTCTATATCAGTG
965     L  L  C  R  N  V  L  T  G  R  C  Y  W  E  V  E  W  R  G  R  V  S  I  S  V
3076    AGTTACAGAGGAATCAGCAGGAGAGGAAACAGGGAAGACTGTGTGTTTGGATGGAATGATCAGTCCTGGAGACTG
990     S  Y  R  G  I  S  R  R  G  N  R  E  D  C  V  F  G  W  N  D  Q  S  W  R  L
3151    AGCTGCTCTGATGATGGTCGTTACTTTGTCAGGCACAATAAGAGAGAAACACCTATCTCCTCCTCCTCCTCCTTC
1015    S  C  S  D  D  G  R  Y  F  V  R  H  N  K  R  E  T  P  I  S  S  S  S  S  F
3226    TCCTCCTCCTCCTCCTCCTCCTCCTCTAACAGAGTAGCAGTGTTTGTGGACTGTCCTGCTGGCACTCTGTCC
1040    S  S  S  S  S  S  S  S  S  S  N  R  V  A  V  F  V  D  C  P  A  G  T  L  S
3301    TTCTACAGAGTCTCCTCTGACACACTGACCCACCTCCACACCTTCAGCACCACATTCACTGAACCTCTTTATCCT
1065    F  Y  R  V  S  S  D  T  L  T  H  L  H  T  F  S  T  T  F  T  E  P  L  Y  P
3376    GGGTTTGGGTTCAGGTCCTGGTCCAGTCTTGGTTCCTCAGTGTCTCTGTGTTCTCTGTAGgacggagagtctcct
1090    G  F  G  F  R  S  W  S  S  L  G  S  S  V  S  L  C  S  L  *
3451    cctgttggagaaacattttcactgatgaacagatcagttgagtctgtacaggatcacagttacagaaatctttca
3526    tgttattaatcaatcaacagttatcaatgaacttcgtaccaaatcattcagagtgattgaaaagattcttcattt
3601    acattgtaaacttgttcctcttccttttaaagatggaagctgtgatcattaaatagtggcaaagctgttgacttg
3676    gaccttctgtcctgttgtgtttgaattctggctcttgttcaataaaagcataatgtaaaaaaaaaaaaaaaaaa
3751    aaaaa
```

Supplement Figure S1. cDNA and deduced amino acid sequence of *Lm*NLRC3L. The ORF is shown in upper case and the 5′-UTR and 3′-UTR sequences are in lower case. The translation initiation codon, stop codon and polyadenylation signal are shown in bold.

```
1       ttcgaaaaccaactctttggacaagcaggacggcggtttgggatctcctggtgagagATGACTTCCAAAACCATA
1                                                                 M  T  S  K  T  I
76      AAAAAGGCCTTGGCGGACACACTGGAGGACTTGTCCAAAGAAGACTTTGCCAAGTTCCGCCACGCGCTGCTGGAC
7        K  K  A  L  A  D  T  L  E  D  L  S  K  E  D  F  A  K  F  R  H  A  L  L  D
151     CGCAGAGAAGAGCCGCGGGTCAGACGCAACAGGGTGGAGGGCAAAAACTATCTAGACATCACAGACGTGCTGGTG
32       R  R  E  E  P  R  V  R  R  N  R  V  E  G  K  N  Y  L  D  I  T  D  V  L  V
226     TCCGCCTTCACCGAGGCCGGAGCTCTCGACGTGGCCGCGGGCTTACTGAGACAGATCGGCTGCAGCCAGGAGGCA
57       S  A  F  T  E  A  G  A  L  D  V  A  A  G  L  L  R  Q  I  G  C  S  Q  E  A
301     GACCGCCTGGATGAGGAGTGCACAATCATTAAGGGTGGACAATCATCAAAACCTGGCTCTAGTGACACTGCAAGC
82       D  R  L  D  E  E  C  T  I  I  K  G  G  Q  S  S  K  P  G  S  S  D  T  A  S
376     CCCTCAGCCGGAGCATCTGGTAACACTAAGTGCACAGGTGCAGACTTTGTGGATAAACATCGAGTCGAGCTGATC
107      P  S  A  G  A  S  G  N  T  K  C  T  G  A  D  F  V  D  K  H  R  V  E  L  I
451     AATAGAGTGAGCAACATTGCACCCATCTTGGATGAGCTCCTCGAAAGAAAAGTCATCTCACAAGAGACGTATGAT
132      N  R  V  S  N  I  A  P  I  L  D  E  L  L  E  R  K  V  I  S  Q  E  T  Y  D
526     AACATCAGGTCTCTGCGTACTTCTCAGGAGAAGATGAGGGAGATCTACTCTAGTGGCCTCAAAGCTGGTCGATGT
157      N  I  R  S  L  R  T  S  Q  E  K  M  R  E  I  Y  S  S  G  L  K  A  G  R  C
601     TGCAAAGACATCTTCTGGGAAATCCTTCAGAAAAATGAGCAATTTCTCATTGCTGACCTCAAAGGAGAGCAGTAA
182      C  K  D  I  F  W  E  I  L  Q  K  N  E  Q  F  L  I  A  D  L  K  G  E  Q  *
676     atgtcgtggtgaaatctattcttagaccaaacgtacagtctacctgaaccaaaaatgtttttattcccttacaa
751     tggggaaatactattggtaatgatatgtctctgtggtggttctctcaaaaaaaaaaaaaaaaaaaaaaaaaaa
```

Supplement Figure S2. cDNA and deduced amino acid sequence of *Lm*ASC. The ORF is shown in upper case and the 5′-UTR and 3′-UTR sequences are in lower case. The translation initiation codon, stop codon and polyadenylation signal are shown in bold.

```
1       ctctccggtgtaaagaccggttcctcctggcttgaagttgcacgccatcggtgcattttgatgcggaagaagagt
76      caatccacacacaatctggacaaaagatgcacagcaaactgcaacactttggagcaaggggatcacgttttaagc
151     cacacctgcatcagcccgcagcagtaataaagcctttgctctgaccagtgatcatttaaagtaggtcacctgagg
226     taaagcaggaaacatcgttgtcgtctcgtccctgcacgcagcacacagggagtgtccgtgacttcagttcagaca
301     gatctgtgatgagaggtgcgaggcATGGCAGATAAGGAGCTTGCCAGGGTGAGGACTAAGTTTGTGGAAAAGGTG
1                               M  A  D  K  E  L  A  R  V  R  T  K  F  V  E  K  V
376     TCCAAAGAACTTATCAATCAGCTCCTGGACGACATTTTAGAAGATGGTGTCCTGAATGATGGGGAGAAAGACTCA
18       S  K  E  L  I  N  Q  L  L  D  D  I  L  E  D  G  V  L  N  D  G  E  K  D  S
451     ATACTTGAGGAGAACAAGAGCACAACAGACAAGGCACGACGTCTCATTGACATAGTGAAGAGGAAAGGAAACGTT
43       I  L  E  E  N  K  S  T  T  D  K  A  R  R  L  I  D  I  V  K  R  K  G  N  V
526     GCCAGCAGGAAGATGATCGCTCACCTCCAGAGCAGAGATGCAACACTTTACGCTGAACTGGGTCTGTCCTGTGGG
68       A  S  R  K  M  I  A  H  L  Q  S  R  D  A  T  L  Y  A  E  L  G  L  S  C  G
601     CAACCTGCTCAGCCAGCTGCAGCGCCCCAGATGGAGAAGGAATGGTCAGCCACACTCAAGTCTTCCACCAACGCA
93       Q  P  A  Q  P  A  A  A  P  Q  M  E  K  E  W  S  A  T  L  K  S  S  T  N  A
676     TTCTGGATGGAGAAACTGAATGATCCAAGTATTTACCCTGTGACCAAAGAGTCCATTGGGAATCGTGTGGCCCTG
118      F  W  M  E  K  L  N  D  P  S  I  Y  P  V  T  K  E  S  I  G  N  R  V  A  L
751     CTAATCACTAATATAACGTTTACTAATGAGAGATTCAATAGGAATGGAGCAAAGAAAGATGAGGACAACATGGAT
143      L  I  T  N  I  T  F  T  N  E  R  F  N  R  N  G  A  K  K  D  E  D  N  M  D
826     GAACTGCTCAAAGGGCTGGGATACGAGGTGGTGAAATACTCAAACCTCACAGGAAAGGAGATCGATGAGGCTGTA
168      E  L  L  K  G  L  G  Y  E  V  V  K  Y  S  N  L  T  G  K  E  I  D  E  A  V
901     ATTAAGTTCTCTAAACATCCAAAACTAAAAGAGACAGACAGTGTGATGGTGGTCATCATGTCTCATGGGAAACTG
193      I  K  F  S  K  H  P  K  L  K  E  T  D  S  V  M  V  V  I  M  S  H  G  K  L
976     GGAGCTGTCCTTGGTGTCAACTGGACAAATGAGACATCTGGTCGAGATGAGTTTCCCATTGACAACATTTACAAA
218      G  A  V  L  G  V  N  W  T  N  E  T  S  G  R  D  E  F  P  I  D  N  I  Y  K
1051    CACTTGGGTTCAGAGAAATGTCCAGCACTGCTGAACAAACCCAAGATCATCATCATCCAGGCCTGCAGAGGAGAG
243      H  L  G  S  E  K  C  P  A  L  L  N  K  P  K  I  I  I  I  Q  A  C  R  G  E
1126    GAGCAAGGATCAGTAATTGTTACTGACTGTGCTAACCCAGCTCTGTTCTCTGATGATGTGAACCAGCCCGGTCCA
268      E  Q  G  S  V  I  V  T  D  C  A  N  P  A  L  F  S  D  D  V  N  Q  P  G  P
1201    TCATTGTCTGCTGATGAAGAAAACATAGAGGATGATAGGTTGAGATGTGTACACAAAGAAATACACTTCATTTCT
293      S  L  S  A  D  E  E  N  I  E  D  D  R  L  R  C  V  H  K  E  I  H  F  I  S
1276    CTTCTTTCCTCCACCCCTGACACCGTCTCATATAGACACAGGAATGATGGGTCTTTTCTTATCCAGTACATTGTT
318      L  L  S  S  T  P  D  T  V  S  Y  R  H  R  N  D  G  S  F  L  I  Q  Y  I  V
1351    GAAGTATTCAACACCTTCTCACAGAAGGATGACATTGACGAACTTTTTAGAAAAGTCATGCAACGCTTTGAAGAC
343      E  V  F  N  T  F  S  Q  K  D  D  I  D  E  L  F  R  K  V  M  Q  R  F  E  D
1426    TTTTCTGTTCAAAACAAAAGACAGATGGCAACCAAAGACAGATGCACTTTGACAAAGCGCTTCCATTTCTTTCCA
368      F  S  V  Q  N  K  R  Q  M  A  T  K  D  R  C  T  L  T  K  R  F  H  F  F  P
1501    GGCCTCTGAgacaagactgagagtttttaaacacgggcttgtagccacatttcaaaaaatgcctgcaatattact
393      G  L  *
1576    tggtgaatacaccttatggatggattactaagatactcatgtcatttatatttttataaatgacagtgtgtaagg
1651    ctttgaagtcatggcacacatagatttttattatcatcttttatataacagaatgctttcctatagatgtcatg
1726    caacaagtccactgttttcttttggggagaaaaacagcatattgaatgattgcctgcaccaggctcctagtaatt
1801    ccaccaaatttcaaaacacacctgcctgcaaacttatgtactgctttgattccctatatgacagggcaacatgca
1876    aaatgtgtaatgtttactatctatttagtaaaaattttcaacaatctatagaaattatatattggtattaattt
1951    taaagtttaaaatttctcaccgtttaaaataagtggtggtataggcatttgttatatagggactataatgtaaag
2026    gtcatttgactatcccagatcttgatgtaattgatttgcattactaagcaaagtaagcataattaagcttataaa
2101    aatgtattcacatttgtgatgtgacatattggcatttaatgggcatttagttttgtttgaattcattttgttttg
2176    aactacaaattaaaactttttttgcaaaaaaaaaaaaaaaaaaaaaaaaaaa
```

Supplement Figure S3. cDNA and deduced amino acid sequence of *Lm*caspase1. The ORF is shown in upper case and the 5′-UTR and 3′-UTR sequences are in lower case. The translation initiation codon, stop codon and polyadenylation signal are shown in bold.