

Identification and Characterization of a Fatty Acid- and Retinoid-Binding Protein Gene (*Ar-far-1*) from the Chrysanthemum Foliar Nematode, *Aphelenchoides ritzemabosi*

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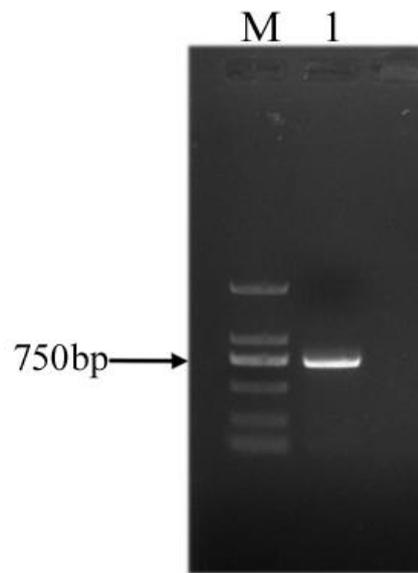


Figure S1. The cDNA sequence amplification results of fatty acid- and retinoid-binding gene (*Ar-far-1*) of *Aphelenchoides ritzemabosi*.

Translation of DNAMAN1{RF+1}(31-574)
 Universal code
 Total amino acid number: 180, MW=20369
 Max ORF starts at AA pos 1(may be DNA pos 31) for 180 AA(540 bases), MW=20369

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1      AACCCAAGTTTGAGCAACCTCAACAAAACCATGAGTCTTCGCACATTCGTTTCTTTGTTC
1      M S L R T F V S L F
61     GCGCTCTTCTGTCTTAGCTATGCAGCTACTCTTCCGTTGAGCATTTCATCAAGTGCCCGAA
11     A L F C L S Y A A T L P L S I H Q V P E
121    CAACTTAAAGAAGTTGTGCCCGAGGAAGTGAAAAAATCTATGCTGACCTCACTGAAGAA
31     Q L K E V V P E E V K K F Y A D L T E E
181    GACAAGACCATCTTAAAAGAGGTTGCTGCTAACCACGCCAGCTACGAAAACGAAGATCAA
51     D K T I L K E V A A N H A S Y E N E D Q
241    GCTATGGAAGCTCTCAAGGCAAAGAGCGAAAAACTGTTTAAACAAAGCTACCGAACTTCGT
71     A M E A L K A K S E K L F N K A T E L R
301    ACTCTCTGAAAACCAAAAATTGACTCGTTGAAACCCGATGCGAAAGCATTGTTGAAGGT
91     T L L K T K I D S L K P D A K A F V E G
361    ATCATCAACAAGGTTTCGCGCCTTGAAACCTAAGGGTGAAGAGAAGCCTGACTTAAAGAAG
111    I I N K V R A L K P K G E E K P D L K K
421    ATTCGTGAAGTTGCTAACGAAGTCATCGACTCCTACAAAGCTTTGGGCGAAGAATCTAAA
131    I R E V A N E V I D S Y K A L G E E S K
481    CAGAACTTGCAAGAAACGTTCCCAAAATCACGAACGTTATTAAGAACGAGAAATCCAA
151    Q N L Q E T F P Q I T N V I K N E K F Q
541    ACTCTCGCTCAAGGTTTGATCAAACAAGAAAATTAACGGTCTCGAAAACGGATAGCTT
171    T L A Q G L I K Q E N

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Figure S2. The amino acid sequence of fatty acid- and retinoid-binding gene (*Ar-far-1*) of *Aphelenchoides ritzemabosi*.

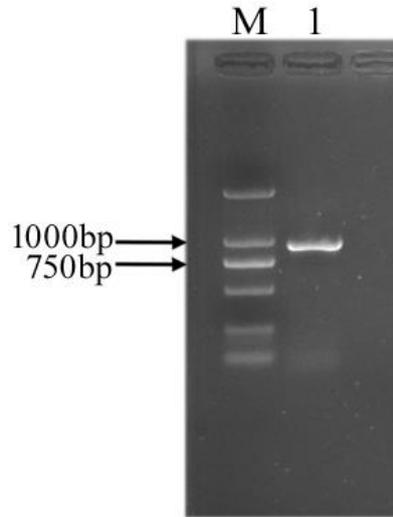


Figure S3. The DNA sequence amplification results of fatty acid- and retinoid-binding gene (*Ar-far-1*) of *Aphelenchoides ritzemabosi*.

SEQ DNAMAN1: 947 bp;
 Composition 322 A; 178 C; 169 G; 278 T; 0 OTHER
 Percentage: 34.0% A; 18.8% C; 17.8% G; 29.4% T; 0.0%OTHER
 Molecular Weight (kDa): ssDNA: 292.34 dsDNA: 583.70
 ORIGIN

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1   AACCCAAGTT TGAGCAACCT CAACAAAACC ATGAGTCTTC GCACATTCGT TTCTTTGTTC
61  GCGCTCTTCT GTCTTAGCTA TGCAGCTACT CTCCCGTTGA GCATTCATCA AGTGCCCGAA
121 CAACTTAAAG GTAAAAATCG TGATTACCAT GTTTTTGATT GTTTTAAATT TTAGAAGTTG
181 TGCCCGAGGA AGTGAAAAA TTCTATGCTG ACCTCACTGA AGAAGACAAG ACCATCTTAA
241 AAGAGGTTGC TGCTAACCCAC GCCAGCTACG AAAACGAAGA TCAAGCTATG GAAGCTCTCA
301 AGGCAAAGAG CGAAAAACTG TTTAACAAAG CTACCGAACT TCGTACTCTC TTGAAAACCA
361 AAATTGACTC GTTGAAACCC GATGCGAAAG CATTGTGTA AGGTGTAAGT TTAAGTCAAT
421 TTTGCACGTA CATAATTTTA AGAATATTAG CTAGCGTGCA AAGCCAATTC AAAC TATTAA
481 TTTTCAGATC ATCAACAAGG TTCGCGCCTT GAAACCTAAG GGTGAAGAGA AGCCTGACTT
541 AAAGAAGGTA TTCAATTTTG CATTAACTT ATTTTATTAA AAGAACTTT TTTAGATTTCG
601 TGAAGTTGCT AACGAAGTCA TCGACTCCTA CAAAGCTTTG GCGGAAGAAT CTAAACAGAA
661 CTTGCAAGAA ACGTTCCCAC AAATCACGAA CGTTATTAAG AGTTAGTTTG CATTCTTATA
721 AAGCTTTCAA ATTTTCGATT TTTTAGACGA GAAATCCAA ACTCTCGCTC AAGGTTTGAT
781 CAAACAAGAA AATTAAACGG TCGTCGAAA CGGATAGCTT CGACTAATTA TGTCAACAAT
841 GACCATAGTG ATTTTGTGTA TAATGTGTGT TAAAATTTTCG GATCCTTATA GTTGTGCTCG
901 TTTGTTTCGAA TAATGTCAGA TCGAAAAAC ACGAAATAAA CTCATA

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Figure S4. The DNA sequence of fatty acid- and retinoid-binding gene (*Ar-far-1*) of *Aphelenchoides ritzemabosi*. The shaded parts were the locations of the four introns. The arrows and box were the positions of the primers of the southern-blot probe and the restriction enzymes Dra I, respectively.

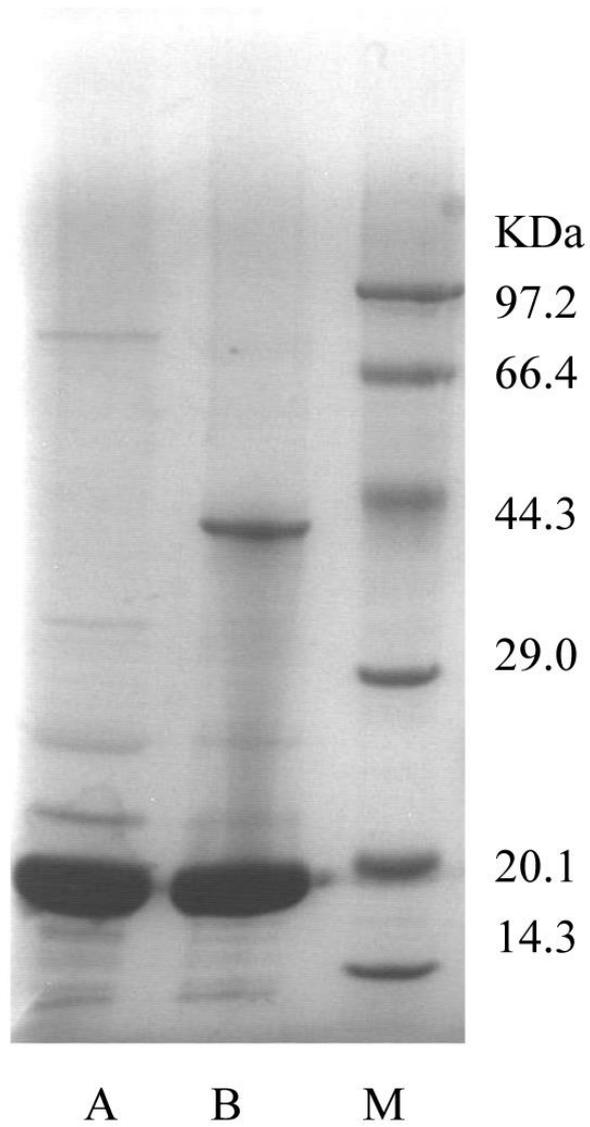


Figure S5. Sodium dodecyl sulphate polyacrylamide gel (SDS-PAGE) of *Escherichia coli* cells expressing fatty acid- and retinoid-binding protein (*Ar-FAR-1*) and its purified protein. M: Protein Marker, A: reduced protein, B: non-reduced protein.

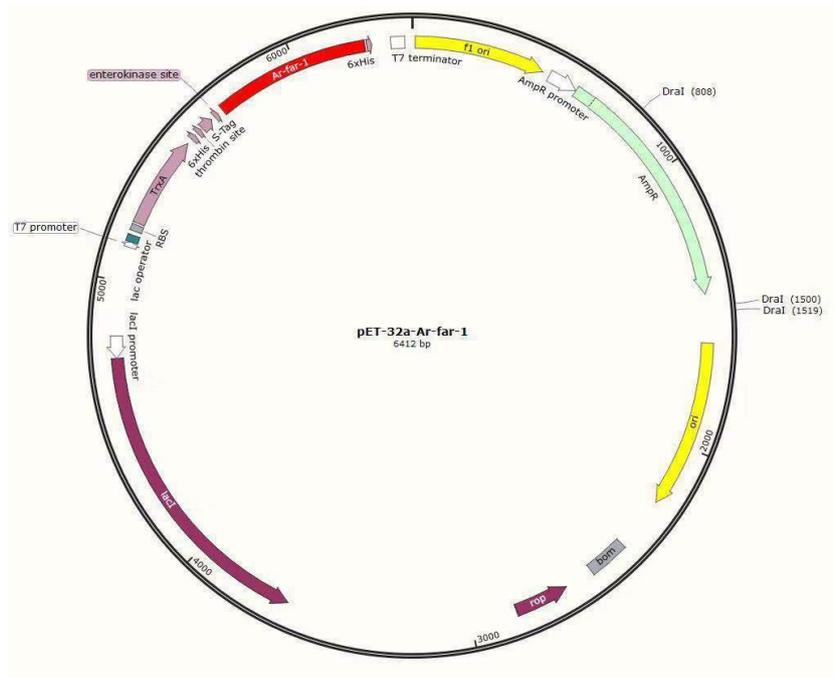


Figure S6. The map of the recombinant vector (pET-32a-Ar-far-1).