Evolution of Th2 responses: characterization of IL-4/13 in sea bass (*Dicentrarchus labrax* L.) and studies of expression and biological activity

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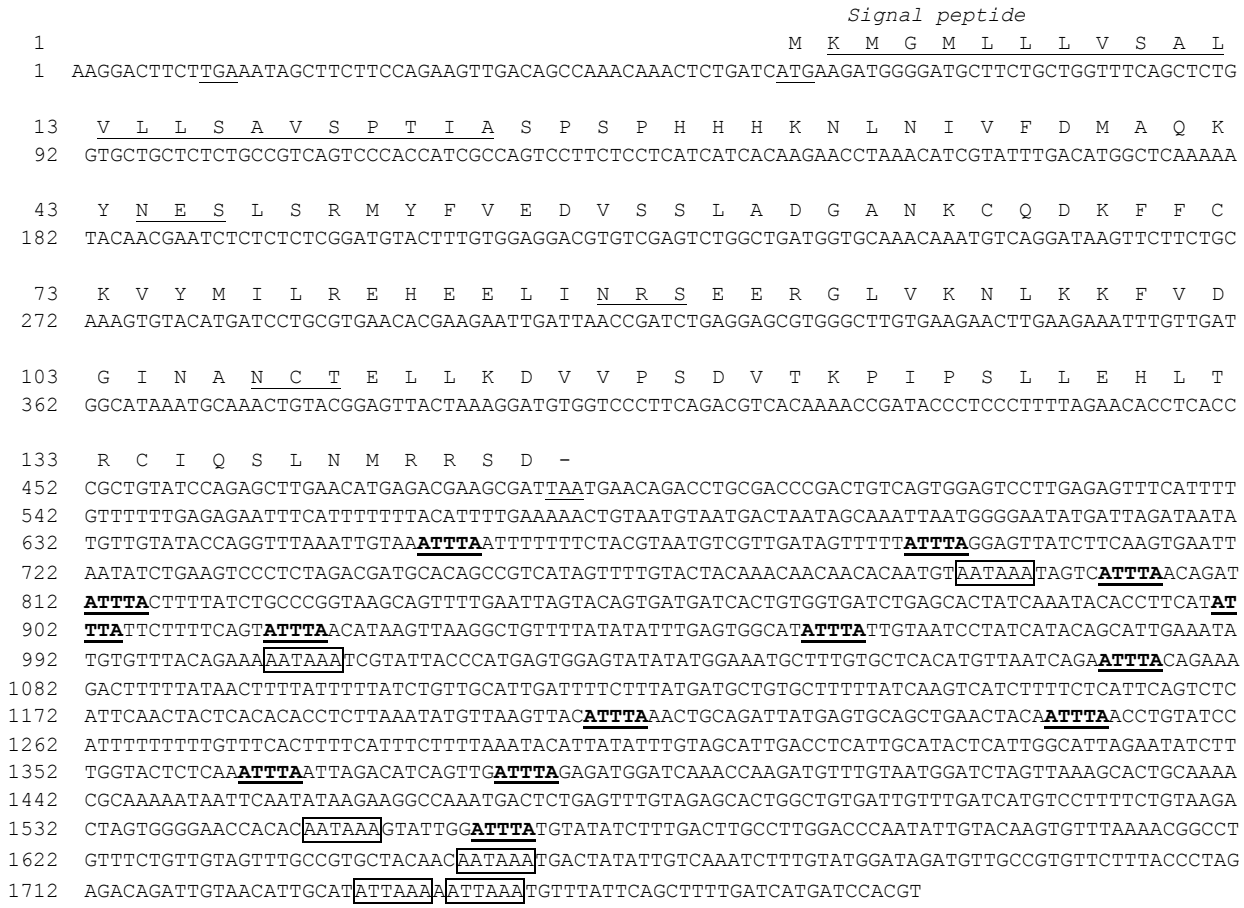

Figure S1. The nucleotide sequence and amino acid translation of sea bass IL-4/13A1. Start and stop codons, and in frame stop codon before the main ORF are underlined; ATTTA motifs are in bold and underlined, potential poly(A) signals are boxed; potential N-glycosylation sites are underlined.

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    CGTCTCATCAACCACACAATAATCAGTCATATCTTATCTTACATTACCGACTGACAGCATTTTTTTCCTTTTTGGTATGAGTGGTAAAGC

 92 TTGGCCGAGGCGTGGGCAATGCAAAAGTATAAAGGTTCTCAGTTGAAGCCTTATAACAAACTGATCAATTCAAGGGCTTTCTGACATAGC
                                        Signal peptide
  1                                 M  K  M  K  M  L  L  L  V  S  A  V  A  L  L  V  N  S  A  A
182 TTCCTCAAGAGCTCAACAACAGCTTGTATCATGAAGATGAAGATGCTTCTGCTGGTATCTGCTGTGGCTCTGCTGGTAAATTCAGCTGCT

 21  V  S  A  R  P  H  N  V  T  Q  Q  N  L  I  F  D  L  V  E  K  C  I  E  S  R  S  Q  T  F  V
272 GTTAGTGCTCGTCCTCATAACGTTACTCAGCAAAACCTAATATTTGACCTCGTGGAAAAATGCATTGAATCTCGTTCACAGACATTTGTG

 51  D  D  V  S  H  L  A  K  G  S  R  K  C  E  D  R  F  F  C  K  V  H  D  V  L  R  N  T  K  D
362 GATGATGTATCACATCTGGCTAAAGGCAGCAGAAAATGTGAGGATCGGTTCTTTTGTAAAGTGCATGATGTCCTGCGTAACACAAAAGAT

 81  V  C  K  E  E  D  R  K  V  L  V  E  T  L  H  A  Y  N  T  G  R  N  V  Q  C  E  N  T  L  Q
452 GTCTGTAAAGAGGAGGACAGGAAGGTGCTTGTGGAAACCCTGCATGCGTATAATACTGGCAGAAATGTGCAGTGTGAAAATACACTTCAG

111  G  M  T  S  T  G  I  E  I  E  V  S  S  F  L  E  H  V  K  R  C  V  R  H  R  N  F  H  G  T
542 GGAATGACAAGTACAGGCATAGAGATCGAAGTATCCAGCTTTTTGGAACATGTCAAGCGTTGTGTCCGGCACAGAAACTTTCATGGGACC

141  K  K  -
632 AAAAAATAGCAGCTCCTGAATACCACCAAAACCCAATGTGAAGGCTACCAGATACAGCTGCTTGTTTTCTAATTTGTAACTGTATTTAAC

722 ATAAATTATTAAATCTATTTGAATAACATATTTATTGTAATATCATGCAGCATTGAAATACAATTGTACAGAATTTACAGAAAAATAAAA

812 TTGTATTCATTAAGATAAAAAAAAAAAGT
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Figure S2. The nucleotide sequence and amino acid translation of sea bass IL-4/13A2. Start and stop codons, and in frame stop codon before the main ORF are underlined; ATTTA motifs are in bold and underlined, the potential poly(A) signal is boxed; potential N-glycosylation sites are underlined.

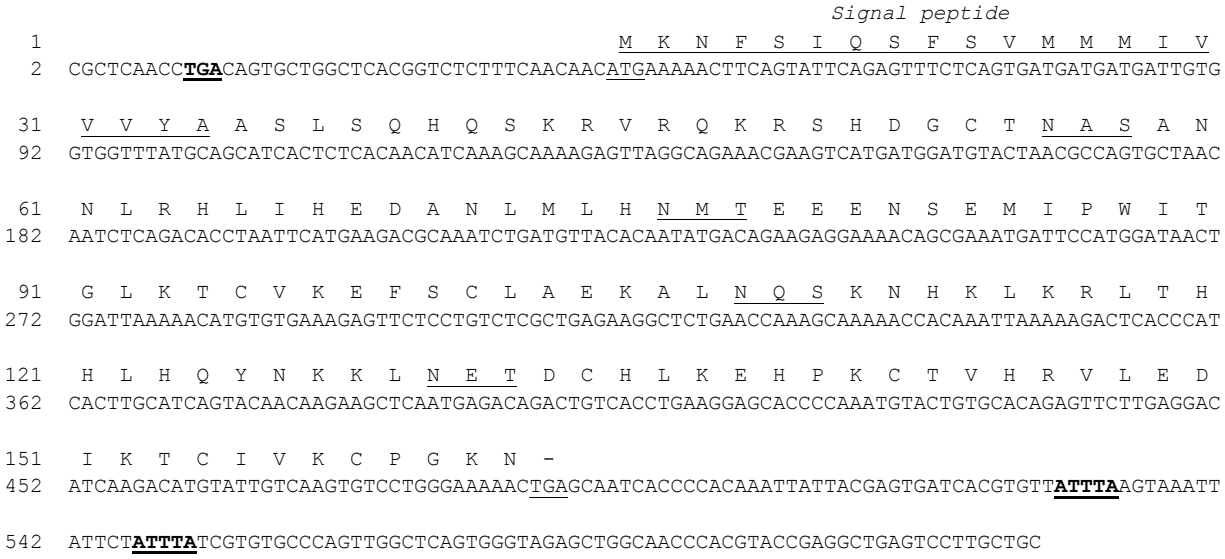

Figure S3. The nucleotide sequence and amino acid translation of sea bass IL-4/13B. Start and stop codons, and in frame stop codon before the main ORF are underlined; ATTTA motifs are in bold and underlined; potential N-glycosylation sites are underlined.

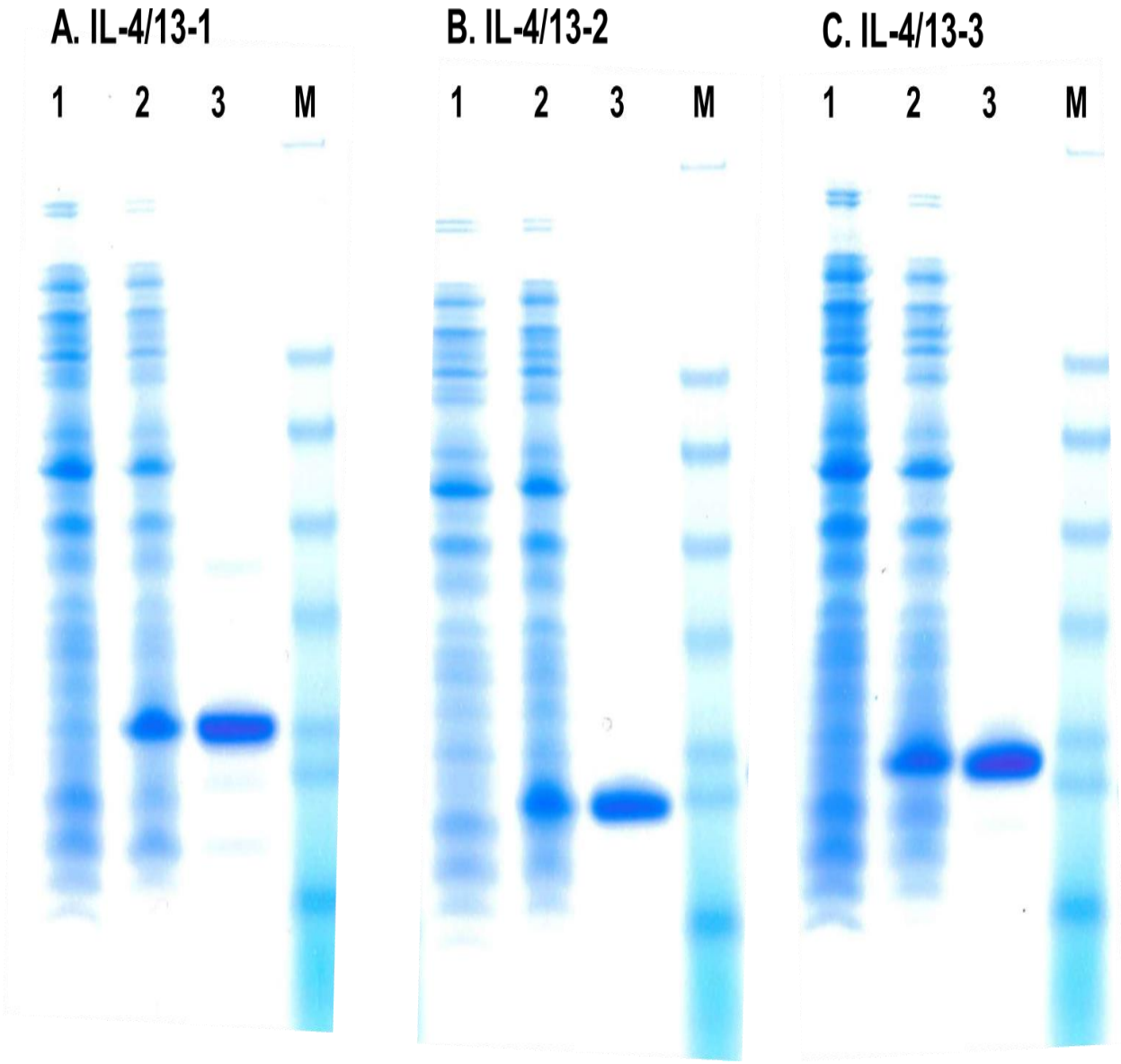

Figure S4. SDS-PAGE analysis of seabass rIL-4/13 isoforms expression and purification from *E. coli* BL21 Star (DE3). The SDS-PAGE gel was stained with SeeBlue (Invitrogen). Samples loaded in the different lanes: 1: a sample from un-induced BL21 cells; 2: BL21 transformed by IL-4/13-expressing plasmid and induced with 1 mM IPTG for 4 h; 3: expression product purified from transformed cells expressing IL-4/13 isoforms; M: Protein marker, SeeBlue (Invitrogen); IL-4/13-1 = IL-4/13B; IL-4/13-2 = IL-4/13-A1; IL-4/13-3 = IL-4/13A2.