

عنوان مقاله:

Molecular characterization of apolipoprotein A-I from the skin mucosa of *Cyprinus carpio*

محل انتشار:

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خلاصه مقاله:

Apolipoprotein A-I is the most abundant protein in *Cyprinus carpio* plasma that plays an important role in lipid transport and protection of the skin by means of its antimicrobial activity. A 527 bp cDNA fragment encoding C terminus part of apoA-I from the skin mucosa of common carp was isolated using RT-PCR. After GenBank database searching, a partial sequence containing a coding sequence (CDS) relating to this gene was found. Overlapping of the cDNA fragment with this CDS allowed us to obtain the full-length sequence including non-coding regions. This sequence has 1170 bp including a polyA tail of 18 bp plus 45 and 354 bp at the 3'- and 5'-untranslated regions, respectively. The complete sequence contained an open reading frame of 256 amino containing 5 amino acid propeptides with a predicted molecular mass of 29.967 kDa and theoretical pI of 6.13. The signal peptide of common carp apoA-I was predicted to have the most likely cleavage site between amino acid positions 17 and 18. Domain analysis of common carp apoA-I showed the conserved domain of Apolipoprotein A1/A4/E between amino acid residues 67 to 251. The similarity search indicated that common carp apoA-I matched apoA protein from the group of fish with 45-77% similarity, but showed relatively low levels of similarity to its mammalian counterparts (20-28%). It was shown that the secondary structure of *C. carpio* apoA-I consisted of α -helical predominantly amphipathic in nature and was characterized by the presence of thirteen conserved repeats.

کلمات کلیدی:

Apolipoprotein A-I, Common carp, *Cyprinus carpio*, Epidermal mucus, Full-length sequence

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