CONSERVED MOTIFS IN PRIMARY SEQUENCES OF METALLOTHIONEINS TYPE-II IN CRASSOTERA (MOLLUSC - BIVALVIA)

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Metallothioneins (MT) are low molecular weight, cysteine-rich protein well spread in all organisms. These proteins have the known motif Cys-X-Cys or Cys-X-X-Cys and this defines the protein isoforms. The bivalvia mollusk from the genera *crassostrea* has huge bioaccumulation capacity for metals and may be used as environmental contamination biomarker. This work aimed to find a conserved motif between metallothioneins type **I** in crassostrea genre helping to identify new isoforms using specific primers as probes. On the NR database from GenBank (GenBank NCBI - National Center for Biotechnology Information) were found 22 known MT from the genera *crassostrea* from which 8 were from class II MT and used in this approach (from 5 different species). All this 8 sequences were multiply aligned using CLUSTALW (http://www.ebi.ac.uk/clustalw) achieving a high score (11229). This alignment were submitted to PRATT (http://www.ebi.ac.uk/pratt) looking for motifs in common between the sequences. As result were found a motifs (C-S-x-S-C-P-x(2)-G-C-K-C-G-x-G-C-K-C-G-D-x-C-x-C-x-G-C-K-V) with 91.7% of fitness score. Searching on GenBank (with blastP) using this motif and the MT sequence CAA42522.1 as parameters it were possible to retrieve 24 MT from several bivalves. This result opens possibility of using the motif as base to develop specific primers to isolate and identify MTs type-II in bivalve.