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Nota di contenuto	Functional Genomics in Aquaculture; Contents; List of Contributors; Preface; Chapter 1 Functional Genomics Research in Aquaculture: Principles and General Approaches; Introduction; The Concept of Functional Genomics; Genes and Gene Functions; Concept of Functional Genomics; Goals of Functional Genomics; Approaches to Functional Genomics; Functional Correlation of Gene Expression Profiling; Functional Correlation of Gene Positions; Expression Quantitative Trait Loci Analysis; Functional Inference by Comparative Genome Analysis; Gene Pathway Analysis Profiling of DNA-Protein Interactions and Epigenetic Modifications Direct Test of Gene Functions; Functional Genomics Approaches Suitable for Aquaculture; Acknowledgments; References; Chapter 2 Genomic Resources for Functional Genomics in Aquaculture Species; Introduction; Polymorphic DNA Markers; Expressed Sequence Tags (ESTs); NCBI's Public dbEST; NCBI's Public UniGene; The Gene Indices;

Public Sigenae Contig Browser; The US National Animal Genome Project Bioinformatics Database; Microarrays; Sequence Read Archive (SRA); Applications; SNP Genotyping Platforms
Databases for Aquaculture Species Zebrafish; Catfish; Atlantic Salmon; Fugu; Medaka; Pufferfish; Stickleback; Rainbow Trout; Whole Genome Sequence Assemblies; References; Chapter 3 Production, Growth, and Insulin-Like Growth Factor-I (IGF-I) Gene Expression as an Instantaneous Growth Indicator in Nile Tilapia Oreochromis Niloticus; Introduction; Aquaculture and Health Benefits; Economic Prominence of Tilapia; Growth Trials; The Relationship of Insulin-Like Growth Factor-I (IGF-I) to Growth; Practical Utility of IGF-I mRNA as an Indicator for Growth Rate; Conclusions; Acknowledgments
References Chapter 4 Gene Expression Pattern during European Sea Bass Larvae Development: Impact of Dietary Vitamins; Introduction; Larval to Juvenile Development: Morphological Aspects; Development of Genomic Resources and Tools; Transcriptomic Investigation of European Sea Bass Larvae Development; Organogenesis; Digestive Function; Metabolic Pathways; Impact of Nutritional Factors; Impact of Vitamin A; Impact of Vitamin D; Impact of Vitamin C; Conclusions; Acknowledgments; References; Chapter 5 Transcriptomics of the Compensatory Growth in European Sea Bass Dicentrarchus labrax; Introduction
Key Players in Fatty Acid Metabolism Key Players in Intestinal Oligopeptides Transport; Molecular Cloning and Sequencing; In Silico Analysis; Oligopeptide Transporter PepT1; 6 Desaturase; Phylogenetic Analysis; Dietary Manipulation of PepT1 and 6 Desaturase Gene Expression; Effect of Dietary Manipulation on Fish Growth Performances; Effect of Dietary Manipulation on Gene Expression; 6 Desaturase; PepT1; Conclusions; References; Chapter 6 Functional Genomic Analysis of the Nutritional and Hormonal Regulation of Fish Glucose and Lipid Metabolism; Introduction; Carbohydrate Metabolism Glycolysis

Sommario/riassunto

Genomics has revolutionized biological research over the course of the last two decades. Genome maps of key agricultural species have offered increased understanding of the structure, organization, and evolution of animal genomes. Building upon this foundation, researchers are now emphasizing research on genome function. Published with the World Aquaculture Society, Functional Genomics in Aquaculture looks at the advances in this field as they directly relate to key traits and species in aquaculture production. Functional Genomics in Aquaculture opens with two