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(57) Abstract: A molecular tool to enhance salt tolerance is determined. The invention describes transferrin linked genetic markers (microsatellite-transferrin haplotypes) in tilapia segregating with salt tolerance and functional mutants (SNPs) in the transferrin gene, which coincide with the marker haplotypes, and hence are regarded as functional mutants tightly linked with salt tolerance in this species. In addition it is demonstrated that transferrin is significantly up-regulated in tilapias exposed to saltwater. Increased knowledge of genes involved in saltwater tolerance will facilitate selection for this trait which is necessary in the expanding industry of tilapia farming with the demand for farming facilities in coastal areas. Such a development presupposes a tilapia that tolerates saltwater without reduction in growth performance and health.



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