

Research Abstract: RNAseq Analysis of Intestinal Regeneration and Neural Tissue in the sea cucumber *Holothuria glaberrima*

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Echinoderms, animals closely related to vertebrates possess extraordinary regenerative abilities. Among them, the holothurians or sea cucumbers are well known for their capability to regenerate various tissues and organs. Our research focuses on one species, *Holothuria glaberrima*, to characterize the molecular basis of intestinal regeneration. To this end, we employ various bioinformatics tools and differential expression analysis to identify genes of importance in the early regeneration process of multiple organs, such as the mesentery and radial nerve cords. Employing the basic underlying philosophies of Systems Biology, we have taken a holistic approach to our studies, identifying not just individual genes of interest during regeneration, but groups of enriched genes, as well as enriched pathways.