

Supplementary Material

Identification and Validation of Autophagy-Related Genes in Hirschsprung's Disease

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1 Supplementary Tables

Table S1 Clinical data of patients with HSCR

	Age at surgery (months)	Sex	Associated anomalies	Extent Aganglionosis	Enterocolitis	
					Preoperative	Post laparoscopic-assisted Pull-through
1	1	Male	-	Long segment	Yes	-
2	14	Male	PDA Ligation	Rectosigmoid	-	Yes
3	2	Female	-	Rectosigmoid	-	-
4	2	Female	-	Long segment	-	-
5	4	Male	ASD	Rectosigmoid	-	-
6	6	Male	-	Rectosigmoid	-	-
7	8	Male	PDA Ligation	Rectosigmoid	-	-
8	10	Male	Cryptorchidism	Rectosigmoid	-	-
9	4	Male	-	Rectosigmoid	-	-
10	8	Male	-	Rectosigmoid	-	Yes

TABLE S2 | Functional and pathway enrichment analyses for module genes (The top 3 terms were selected based on the adjusted P-value rankings when >3 terms were enriched for a given category)

Term	Description	Count	P-value	Adjusted P-value	Genes
Biological processes					
GO:0006914	Autophagy	9	7.24e-10	6.91e-07	<i>ARSB, BAG3, BNIP3, ITPR1, SIRT1, CLN3, MAP1LC3B, CHMP2B, ATG3</i>
GO:0061919	Process utilizing autophagic mechanism	9	7.24e-10	6.91e-07	<i>ARSB, BAG3, BNIP3, ITPR1, SIRT1, CLN3, MAP1LC3B, CHMP2B, ATG3,</i>
GO:0016236	Macroautophagy	7	1.12e-08	7.19e-06	<i>BAG3, BNIP3, SIRT1, CLN3, MAP1LC3B, CHMP2B, ATG3</i>
Cellular component					
GO:0005783	Endoplasmic reticulum	9	4.12e-05	0.00278	<i>CAPN2, ARSB, EIF2AK3, BNIP3, SERPINA1, ITPR1, EGFR, CLN3, ATF6</i>
GO:0005635	Nuclear envelope	5	6.58e-05	0.00278	<i>BNIP3, ITPR1, EGFR, SIRT1, ATF6</i>
GO:0043231	Bounding membrane of organelle	9	8.49e-05	0.00278	<i>BNIP3, SERPINA1, GOPC, ITPR1, EGFR, CLN3, MAP1LC3B, CHMP2B, ATF6</i>
Molecular functions					
GO:0019899	Enzyme binding	11	2.67e-06	0.000513	<i>NRG1, CAPN2, EIF2AK3, BNIP3, SERPINA1, EGFR, SIRT1, MAP1LC3B, CDKN2A, ATF6, ATG3</i>
GO:0050839	Cell adhesion molecule binding	5	0.000134	0.01290	<i>NRG1, BAG3, ITGA6, EGFR, CHMP2B</i>
GO:0045296	Cadherin binding	4	0.000357	0.0228	<i>BAG3, ITGA6, EGFR, CHMP2B</i>
KEGG pathway					
hsa04140	Autophagy – animal	4	0.000172	0.014603	<i>EIF2AK3, BNIP3, ITPR1, ATG3</i>
hsa04218	Cellular senescence	4	0.000311	0.014603	<i>CAPN2, ITPR1, SIRT1, CDKN2A</i>
hsa04068	FoxO signaling pathway	3	0.002543	0.044057	<i>BNIP3, EGFR, SIRT1</i>