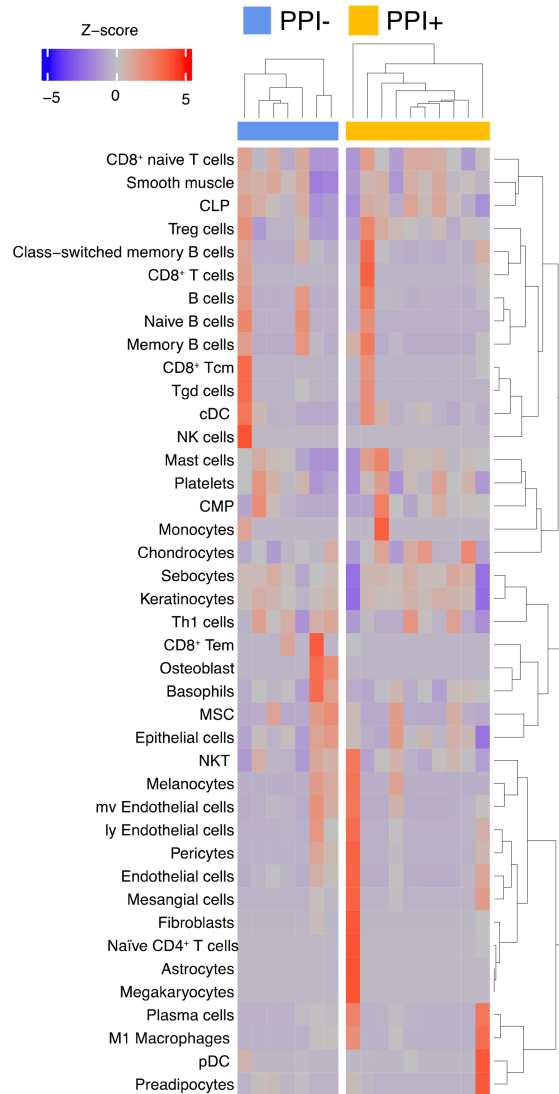


Supplemental Figure. Heatmap of cell types present derived by using deconvolution of bulk RNA-sequencing data. *CLP*, common lymphoid progenitor; *CMP*, common myeloid progenitor; *DC*, dendritic cells; *MSC*, mesenchymal stem cell; *NK* cells, natural killer cells; *PPI*, proton pump inhibitor; *Tgd*, gamma delta T cells.



Supplemental Table S1. Characteristics of Study Cohort

	Overall (N = 17)	PPI- (n = 7)	PPI+ (n = 10)	p Value
Age at endoscopy, y*	14 (12–16)	14 (11–15)	14 (13–16)	0.44
Female†	12 (63)	3 (43)	7 (70)	0.18
White†	17 (89)	7 (100)	8 (80)	0.12
Presenting symptoms‡				
Abdominal pain	13 (68)	5 (71)	6 (60)	0.41
Dysphagia	3 (16)	1 (14)	2 (20)	0.56
Throat clearing	1 (5)	1 (14)	0 (0)	—
Allergic comorbidities‡				
Food allergies	4 (21)	1 (14)	3 (30)	0.16
Allergic rhinitis	2 (11)	1 (14)	1 (10)	0.22
Asthma	2 (11)	1 (14)	1 (10)	0.22
Eczema	3 (16)	2 (28)	1 (10)	0.12
No. of esophageal biopsies*	3 (2–4)	3 (3–4)	3 (2–4)	0.38
PPIs†				
Omeprazole			8 (80)	
Esomeprazole			1 (10)	
Pantoprazole			1 (10)	
Duration of PPI,‡ days			53 (3–224)	
Dose of PPI,‡ mg/kg/day			0.6 (0.4–0.9)	

PPI, proton-pump inhibitor

* Median (IQR).

† n (%).

‡ Median (min–max): The daily dose was identical for the 3 PPIs studied.

Supplemental Table S2. Differentially Expressed Genes Between PPI+ and PPI- Groups

GeneName	baseMean	log2FoldChange	lfcSE	stat	p value	padj	Gene Description
<i>CDH17</i>	471.675597	5.14964155	1.30456263	3.94740846	7.90E-05	0.04528378	cadherin 17 [Source: HGNC Symbol; Acc: HGNC: 1756]
<i>PTPRH</i>	243.733171	6.41151673	1.54924264	4.13848454	3.50E-05	0.02783264	protein tyrosine phosphatase: receptor type H [Source: HGNC Symbol; Acc: HGNC: 9672]
<i>ABCC6</i>	62.6587075	5.22006697	1.27069403	4.10804398	3.99E-05	0.0286908	ATP binding cassette subfamily C member 6 [Source: HGNC Symbol; Acc: HGNC: 57]
<i>MISP</i>	627149188	7.15878082	1.45521272	4.91940505	8.68E-07	0.00255885	mitotic spindle positioning [Source: HGNC Symbol; Acc: HGNC: 27000]
<i>HNF4A</i>	388.482867	6.87052234	1.7030997	4.03412808	5.48E-05	0.03414616	hepatocyte nuclear factor 4 alpha [Source: HGNC Symbol; Acc: HGNC: 5024]
<i>MSLN</i>	420.773977	5.79792473	1.10455657	5.24909714	1.53E-07	0.0007301	mesothelin [Source: HGNC Symbol; Acc: HGNC: 7371]
<i>KIAA1211</i>	152.20172	4.1351243	1.00956561	4.09594409	4.20E-05	0.0286908	KIAA1211 [Source: HGNC Symbol; Acc: HGNC: 29219]
<i>SPDEF</i>	33.5608522	6.31051008	1.45475018	4.33786512	1.44E-05	0.01585928	SAM pointed domain containing ETS transcription factor [Source: HGNC Symbol; Acc: HGNC: 17257]
<i>VIL1</i>	464.478199	5.96181697	1.46519835	4.06894873	4.72E-05	0.03076113	villin 1 [Source: HGNC Symbol; Acc: HGNC: 12690]
<i>ITPKA</i>	62.9782627	4.96178046	1.18291699	4.19452972	2.73E-05	0.02612247	inositol-trisphosphate 3-kinase A [Source: HGNC Symbol; Acc: HGNC: 6178]
<i>SLC3A1</i>	83.1414388	5.5572847	1.26695973	4.38631519	1.15E-05	0.01560161	solute carrier family 3 member 1 [Source: HGNC Symbol; Acc: HGNC: 11025]

(Table cont.)

Supplemental Table S2. Differentially Expressed Genes Between PPI+ and PPI- Groups (cont.)

GeneName	baseMean	log2FoldChange	lfcSE	stat	p value	padj	Gene Description
B3GN7	298.442808	3.00733734	0.76988317	3.9062256	9.37E-05	0.04978013	UDP-GlcNAc:betaGal beta-1:3-N- acetylglucosaminyltransferase 7 [Source: HGNC Symbol; Acc: HGNC: 18811]
TFF3	367.672486	7.35214965	1.68665347	4.35901612	1.31E-05	0.01560161	trefoil factor 3 [Source: HGNC Symbol; Acc: HGNC: 11757]
P1GR	17617.946	7.82585838	1.59259667	4.91389849	8.93E-07	0.00255885	polymeric immunoglobulin receptor [Source: HGNC Symbol; Acc: HGNC: 8968]
WDR72	46.2885444	4.73865588	1.06354442	4.4555317	8.37E-06	0.0133246	WD repeat domain 72 [Source: HGNC Symbol; Acc: HGNC: 26790]
MYO1A	536.576127	6.07547516	1.463968	4.15000544	3.32E-05	0.02783264	myosin IA [Source: HGNC Symbol; Acc: HGNC: 7595]
PCSK9	77.8564438	1.89623373	0.35643506	5.3199978	1.04E-07	0.0007301	proprotein convertase subtilisin/kexin type 9 [Source: HGNC Symbol; Acc: HGNC: 20001]
MUC3A	1110.7388	6.66331604	1.60746996	4.14521963	3.39E-05	0.02783264	mucin 3A: cell surface associated [Source: HGNC Symbol; Acc: HGNC: 7513]
PDZ3	84.0325265	5.10490709	1.30690294	3.90611035	9.38E-05	0.04978013	PDZ domain containing 3 [Source: HGNC Symbol; Acc: HGNC: 19891]
B3GALT5	1201.57497	3.54819829	0.81222923	4.3684691	1.25E-05	0.01560161	beta-1:3-galactosyltransferase 5 [Source: HGNC Symbol; Acc: HGNC: 920]
DMBT1	3594.09568	8.08693621	1.67114077	4.83917115	1.30E-06	0.00311395	deleted in malignant brain tumors 1 [Source: HGNC Symbol; Acc: HGNC: 2926]
BCL2L15	185.553771	3.35320926	0.81720559	4.10326277	4.07E-05	0.0286908	BCL2 like 15 [Source: HGNC Symbol; Acc: HGNC: 33624]

Supplemental Table S2. Differentially Expressed Genes Between PPI+ and PPI- Groups (cont.)

GeneName	baseMean	log2FoldChange	lfcSE	stat	p value	padj	Gene Description
EPS8L3	198.097436	7.95162414	1.78150733	4.46342489	8.07E-06	0.0133246	EPS8 like 3 [Source: HGNC Symbol; Acc: HGNC: 21297]
MUC2	1084.23105	8.32854316	1.86137421	4.474440558	7.66E-06	0.0133246	mucin 2; oligomeric mucus/gel-forming [Source: HGNC Symbol; Acc: HGNC: 7512]
IGHA2	8487.06855	6.28525816	1.47713338	4.25503767	2.09E-05	0.02139406	immunoglobulin heavy constant alpha 2 (A2m marker) [Source: HGNC Symbol; Acc: HGNC: 5479]
PHGR1	314.740863	12.8381323	2.13739359	6.00644278	1.90E-09	2.72E-05	proline: histidine and glycine rich 1 [Source: HGNC Symbol; Acc: HGNC: 37226]
UGT1A10	101.433818	2.9284853	0.73582636	3.97985921	6.90E-05	0.04117253	UDP glucuronosyltransferase family 1 member A10 [Source: HGNC Symbol; Acc: HGNC: 12531]

lfcSE, log-fold change standard error; padj, adjusted p value; PPI, proton pump inhibitor; stat, statistical value or test statistic