

## Online Repository Materials

### **Molecular, Endoscopic, Histologic, and Circulating Biomarker-Based Diagnosis of Eosinophilic Gastritis: Multi-Site Study**

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Registry for Eosinophilic Gastrointestinal Diseases (REGID) Provider Questionnaire

CEGIR Outcomes Measures in Eosinophilic Gastrointestinal disorders Across the ages

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**Supplementary Table 1.** List of EGDP genes

<b>Gene Symbol</b>	<b>Description</b>	<b>Fold Change (EG vs. Non-EG)</b>	<b>Representative Functionality</b>	<b>AssayID</b>
<i>ACPP</i>	acid phosphatase, prostate	1.2	Epithelium-related	Hs00173475_m1
<i>ANXA1</i>	annexin A1	2.2	Inflammatory response	Hs00167549_m1
<i>AREG</i>	amphiregulin	-1.0	Fibrosis	Hs00950669_m1
<i>ATP4A</i>	ATPase H <sup>+</sup> /K <sup>+</sup> transporting subunit alpha	-5.4	Stomach-related	Hs00167575_m1
<i>BMP3</i>	bone morphogenetic protein 3	-13.8	Fibrosis	Hs00609638_m1
<i>CCK</i>	cholecystokinin	-1.0	Stomach-related	Hs00174937_m1
<i>CCL11</i>	C-C motif chemokine ligand 11	-1.0	Cytokine/Chemokine	Hs00237013_m1
<i>CCL18</i>	C-C motif chemokine ligand 18	8.6	Cytokine/Chemokine	Hs00268113_m1
<i>CCL24</i>	C-C motif chemokine ligand 24	3.2	Cytokine/Chemokine	Hs00171082_m1
<i>CCL26</i>	C-C motif chemokine ligand 26	210.3	Cytokine/Chemokine	Hs00171146_m1
<i>CCR3</i>	C-C motif chemokine receptor 3	2.4	Eosinophil	Hs99999027_s1
<i>CDH26</i>	cadherin 26	14.2	Cell adhesion	Hs00375371_m1
<i>CHIA</i>	chitinase, acidic	1.3	Other	Hs00253976_m1
<i>CLC</i>	Charcot-Leyden crystal galectin	10.7	Eosinophil	Hs00171342_m1
<i>COL2A1</i>	collagen type II alpha 1 chain	-3.6	Fibrosis	Hs01064869_m1
<i>CPA3</i>	carboxypeptidase A3	1.7	Mast cell	Hs00157019_m1
<i>CXCL8</i>	C-X-C motif chemokine ligand 8	2.1	Neutrophil	Hs99999034_m1
<i>DEFB1</i>	defensin beta 1	-12.3	Antimicrobial defense	Hs00608345_m1
<i>DUOX2</i>	dual oxidase 2	3.2	Inflammatory response	Hs00204187_m1
<i>DUOXA2</i>	dual oxidase maturation factor 2	3.8	Inflammatory response	Hs01595312_g1
<i>EGLN3</i>	egl-9 family hypoxia inducible factor 3	2.0	EMT/Hypoxia	Hs00222966_m1
<i>GABRA1</i>	gamma-aminobutyric acid type A receptor alpha1 subunit	-7.3	Neurosensory	Hs00971228_m1
<i>GAPDH</i>	glyceraldehyde-3-phosphate dehydrogenase	-	Aux. housekeeping control	Hs99999905_m1
<i>GAPDH</i>	glyceraldehyde-3-phosphate dehydrogenase	-	Main housekeeping control	Hs03929097_g1
<i>GLDN</i>	gliomedin	-18.5	Neurosensory	Hs00738960_m1
<i>HIF1A</i>	hypoxia inducible factor 1 subunit alpha	1.4	EMT/Hypoxia	Hs00153153_m1
<i>HPGDS</i>	hematopoietic prostaglandin D synthase	1.8	Mast cell	Hs00183950_m1
<i>IL13</i>	interleukin 13	4.7	Cytokine/Chemokine	Hs99999038_m1
<i>IL13RA2</i>	interleukin 13 receptor subunit alpha 2	9.6	Cytokine/Chemokine	Hs00152924_m1
<i>IL17A</i>	interleukin 17A	1.3	Cytokine/Chemokine	Hs00174383_m1
<i>IL1RL1</i>	interleukin 1 receptor like 1	2.1	Cytokine/Chemokine	Hs00249384_m1
<i>IL33</i>	interleukin 33	-2.0	Cytokine/Chemokine	Hs04931857_m1
<i>IL4</i>	interleukin 4	1.9	Cytokine/Chemokine	Hs00174122_m1

<i>IL5</i>	interleukin 5	12.8	Cytokine/Chemokine	Hs00174200_m1
<i>IL5RA</i>	interleukin 5 receptor subunit alpha	1.1	Eosinophil	Hs00236871_m1
<i>ITLN1</i>	intelectin 1	6.2	Other	Hs00914745_m1
<i>KLK7</i>	kallikrein related peptidase 7	11.0	Antimicrobial defense	Hs00192503_m1
<i>MADCAM1</i>	mucosal vascular addressin cell adhesion molecule 1	-1.5	Cell adhesion	Hs00175533_m1
<i>MUC4</i>	mucin 4, cell surface associated	7.3	Epithelium-related	Hs00366414_m1
<i>NCF2</i>	neutrophil cytosolic factor 2	1.5	Neutrophil	Hs00166416_m1
<i>NPY</i>	neuropeptide Y	-38.3	Neurosensory	Hs00173470_m1
<i>PGA4</i>	pepsinogen 4, group I pepsinogen A	-1.2	Stomach-related	Hs01029048_m1
<i>S100G</i>	S100 calcium binding protein G	-7.8	Ion transportation	Hs00187854_m1
<i>SLC26A7</i>	solute carrier family 26 member 7	-4.6	Ion transportation	Hs01104163_m1
<i>SST</i>	somatostatin	-14.4	Stomach-related	Hs00356144_m1
<i>TAC1</i>	tachykinin precursor 1	-11.6	Neurosensory	Hs00243225_m1
<i>TCN1</i>	transcobalamin 1	3.1	Stomach-related	Hs01055538_m1
<i>TGFBR1</i>	transforming growth factor beta receptor 1	-1.1	EMT/Hypoxia	Hs00610320_m1

*EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EMT*, epithelial-mesenchymal transition.

**Supplementary Table 2.** Definitions of EG histologic features

<b>Features</b>	<b>Definition</b>	<b>Mild/moderate</b>	<b>Marked</b>
Lamina propria eosinophil sheets	Contiguous eosinophils that form masses in the lamina propria and may increase interglandular distance	Contiguous eosinophil masses without increased interglandular distance	Contiguous eosinophil masses with increased interglandular distance
Periglandular circumferential collars	At least one layer of eosinophils that surround $\geq 3/4$ of circumference of gland cut in cross section, or entire base of a gland cut	Single layer of eosinophils forms collar	More than 1 layer of eosinophils forms collar
Eosinophils in surface epithelium	Eosinophils in surface epithelium	1-5 eosinophils/HPF	>5 eosinophils/HPF or a group of eosinophils of any size
Eosinophil glandulitis	Eosinophils in glandular epithelium, $\pm$ eosinophils in lumen	1-5 eosinophils/HPF	>5 eosinophils/HPF or a group of eosinophils of any size
Eosinophil gland abscess	Dilated gland lined by attenuated epithelium with eosinophils in periglandular lamina propria, gland epithelium, and gland lumen	$\leq 10\%$ of glands	>10% of glands
Eosinophils in muscularis mucosa		Found in $\leq 5$ HPF	Found in >5 HPF
Lamina propria fibroplasia	Acellular pink fibrous tissue in lamina propria	Found in $\leq 5$ HPF	Found in >5 HPF
Lamina propria smooth muscle hyperplasia	Strands of smooth muscle perpendicular to the lumen	Found in $\leq 5$ HPF	Found in >5 HPF
Reactive epithelial changes	reduced mucin, increased nuclear:cytoplasmic ratio, increased mitotic activity, apoptosis, intestinal metaplasia, etc.	Found in $\leq 5$ HPF	Found in >5 HPF
Acute inflammatory cells	Acute inflammatory cells in lamina propria and/or intraepithelial	Found in $\leq 5$ HPF	Found in >5 HPF
Surface erosion/ulceration	Denuded surface with fibrin deposits in denuded area, with or without lamina propria acute inflammation, necrosis, granulation tissue, etc.	Found in $\leq 5$ HPF	Found in >5 HPF

*HPF*, high-power field.



**Supplementary Table 3.** Screening of differentially expressed gene sets for EGDP\*

Fold-change cut-off	Statistical cut-off		
	None	FDR $P < .05$	FDR $P < .01$
None	48	31	25
2 fold	36	31	25
5 fold	23	21	19
10 fold	20	19	18

\*Number of genes that pass various filter cut-offs following comparison of the expression level of all genes between non-EG controls (n = 12) and patients with active EG (n = 9). *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *FDR*, false-discovery rate.

**Supplementary Table 4.** Spearman correlations between EG diagnostic parameters and a diagnostic subset of the EG transcriptome

Representative Functionality	EGDP Genes	Gastric Peak Eosinophil Counts	Histologic Severity	Endoscopic Severity
Antimicrobial defense	<i>DEFB1</i>	-0.49	<b>-0.48</b>	<b>-0.39</b>
Antimicrobial defense	<i>KLK7</i>	0.30	0.36	0.28
Cell adhesion	<i>CDH26</i>	<b>0.59</b>	<b>0.52</b>	0.29
Cell adhesion	<i>MADCAM1</i>	-0.10	-0.12	-0.07
Cytokine/Chemokine	<i>CCL11</i>	0.21	0.17	0.14
Cytokine/Chemokine	<i>CCL18</i>	<b>0.58</b>	0.46	0.20
Cytokine/Chemokine	<i>CCL24</i>	0.32	0.34	0.20
Cytokine/Chemokine	<i>CCL26</i>	<b>0.76</b>	<b>0.69</b>	<b>0.44</b>
Cytokine/Chemokine	<i>IL13</i>	0.30	0.40	<b>0.34</b>
Cytokine/Chemokine	<i>IL13RA2</i>	<b>0.67</b>	<b>0.64</b>	<b>0.41</b>
Cytokine/Chemokine	<i>IL17A</i>	0.21	0.09	0.11
Cytokine/Chemokine	<i>IL1RL1</i>	0.33	0.32	0.30
Cytokine/Chemokine	<i>IL33</i>	-0.39	-0.37	-0.22
Cytokine/Chemokine	<i>IL4</i>	0.27	0.24	0.23
Cytokine/Chemokine	<i>IL5</i>	<b>0.62</b>	<b>0.54</b>	<b>0.39</b>
EMT/Hypoxia	<i>EGLN3</i>	0.35	0.30	0.12
EMT/Hypoxia	<i>HIF1A</i>	0.18	0.21	0.15
EMT/Hypoxia	<i>TGFBR1</i>	-0.19	-0.10	-0.05
Eosinophil	<i>CCR3</i>	0.34	0.29	-0.02
Eosinophil	<i>CLC</i>	<b>0.71</b>	<b>0.59</b>	<b>0.35</b>
Eosinophil	<i>IL5RA</i>	0.05	0.07	0.05
Epithelium-related	<i>ACPP</i>	0.03	0.00	0.13
Epithelium-related	<i>MUC4</i>	0.53	0.45	0.17
Fibrosis	<i>AREG</i>	0.06	0.03	0.05
Fibrosis	<i>BMP3</i>	<b>-0.63</b>	<b>-0.55</b>	-0.27
Fibrosis	<i>COL2A1</i>	-0.32	-0.31	-0.17
Inflammatory response	<i>ANXA1</i>	0.52	<b>0.49</b>	0.28

Inflammatory response	<i>DUOX2</i>	0.42	0.32	0.14
Inflammatory response	<i>DUOXA2</i>	0.19	0.17	0.08
Ion transportation	<i>S100G</i>	-0.15	-0.08	-0.19
Ion transportation	<i>SLC26A7</i>	-0.37	-0.34	-0.15
Mast cell	<i>CPA3</i>	0.46	0.40	0.20
Mast cell	<i>HPGDS</i>	<b>0.53</b>	0.45	0.26
Neurosensory	<i>GABRA1</i>	-0.52	-0.46	<b>-0.39</b>
Neurosensory	<i>GLDN</i>	-0.50	<b>-0.50</b>	<b>-0.43</b>
Neurosensory	<i>NPY</i>	<b>-0.56</b>	-0.45	-0.28
Neurosensory	<i>TAC1</i>	-0.35	-0.34	<b>-0.35</b>
Neutrophil	<i>CXCL8</i>	0.28	0.23	0.18
Neutrophil	<i>NCF2</i>	0.24	0.25	0.16
Other	<i>CHIA</i>	-0.04	-0.05	0.04
Other	<i>ITLNI</i>	0.42	0.33	0.16
Stomach-related	<i>ATP4A</i>	-0.35	-0.34	-0.17
Stomach-related	<i>CCK</i>	0.14	0.05	-0.07
Stomach-related	<i>PGA4</i>	-0.16	-0.15	-0.04
Stomach-related	<i>SST</i>	<b>-0.53</b>	<b>-0.55</b>	<b>-0.40</b>
Stomach-related	<i>TCNI</i>	0.46	0.36	0.07

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Correlations by functional groupings of genes are shown. The text within the cell indicates the Spearman r value. Values in boldface indicate the top 10 genes with nominal statistical significance ( $P < .05$ ). *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EMT*, epithelial-mesenchymal transition.

**Supplementary Table 5.** Spearman correlations between EG histologic features and a diagnostic subset of the EG transcriptome

Representative Functionality	EGDP Genes	AIC	EoGA	SEU	LPF	EoM	LPSMH	EoG	LPES	PCC	EoSE	REC
Antimicrobial defense	<i>DEFB1</i>	-0.01	-0.15	-0.15	0.02	-0.19	-0.19	<b>-0.50</b>	<b>-0.55</b>	<b>-0.59</b>	<b>-0.46</b>	<b>-0.51</b>
Antimicrobial defense	<i>KLK7</i>	0.15	0.07	0.07	0.15	0.07	<b>0.32</b>	<b>0.37</b>	0.28	<b>0.40</b>	<b>0.34</b>	0.25
Cell adhesion	<i>CDH26</i>	0.00	0.16	0.16	0.14	0.22	<b>0.40</b>	<b>0.48</b>	<b>0.60</b>	<b>0.59</b>	<b>0.39</b>	<b>0.41</b>
Cell adhesion	<i>MADCAM1</i>	-0.02	0.01	0.01	-0.02	0.09	-0.12	-0.07	-0.12	-0.12	-0.02	-0.11
Cytokine/Chemokine	<i>CCL11</i>	-0.13	0.07	0.07	0.00	0.28	-0.01	0.15	0.14	0.15	0.09	0.18
Cytokine/Chemokine	<i>CCL18</i>	-0.02	0.15	0.15	-0.03	0.30	0.28	<b>0.47</b>	<b>0.51</b>	<b>0.52</b>	0.30	<b>0.42</b>
Cytokine/Chemokine	<i>CCL24</i>	0.15	0.13	0.13	0.13	0.24	0.16	<b>0.35</b>	<b>0.39</b>	<b>0.43</b>	<b>0.31</b>	0.26
Cytokine/Chemokine	<i>CCL26</i>	0.14	0.16	0.16	0.06	<b>0.38</b>	<b>0.41</b>	<b>0.68</b>	<b>0.67</b>	<b>0.74</b>	<b>0.57</b>	<b>0.62</b>
Cytokine/Chemokine	<i>IL13</i>	-0.12	0.14	0.14	0.20	0.08	0.30	<b>0.38</b>	<b>0.35</b>	<b>0.37</b>	<b>0.44</b>	<b>0.31</b>
Cytokine/Chemokine	<i>IL13RA2</i>	0.01	0.14	0.14	0.04	0.19	<b>0.52</b>	<b>0.57</b>	<b>0.67</b>	<b>0.67</b>	<b>0.46</b>	<b>0.53</b>
Cytokine/Chemokine	<i>IL17A</i>	-0.02	-0.15	-0.15	-0.16	0.15	-0.03	0.17	0.11	0.13	0.16	0.17
Cytokine/Chemokine	<i>IL1RL1</i>	-0.08	0.13	0.13	0.07	0.26	0.07	<b>0.38</b>	<b>0.40</b>	<b>0.41</b>	<b>0.37</b>	0.30
Cytokine/Chemokine	<i>IL33</i>	-0.19	-0.15	-0.15	-0.10	-0.01	<b>-0.34</b>	<b>-0.33</b>	<b>-0.40</b>	<b>-0.42</b>	-0.26	-0.25
Cytokine/Chemokine	<i>IL4</i>	-0.22	0.14	0.14	0.02	0.12	0.08	0.29	0.26	0.23	0.18	0.16
Cytokine/Chemokine	<i>IL5</i>	-0.03	0.15	0.15	0.00	0.25	<b>0.39</b>	<b>0.61</b>	<b>0.61</b>	<b>0.64</b>	<b>0.53</b>	<b>0.47</b>
EMT/Hypoxia	<i>EGLN3</i>	-0.08	0.14	0.14	0.08	0.15	0.26	0.25	<b>0.36</b>	<b>0.37</b>	0.20	0.21
EMT/Hypoxia	<i>HIF1A</i>	-0.10	0.06	0.06	0.08	0.19	0.10	0.17	0.16	0.18	0.19	0.14
EMT/Hypoxia	<i>TGFBR1</i>	-0.08	-0.09	-0.09	0.11	0.20	-0.16	-0.11	-0.14	-0.16	-0.05	-0.12
Eosinophil	<i>CCR3</i>	-0.10	0.10	0.10	0.06	0.08	0.22	<b>0.36</b>	<b>0.33</b>	<b>0.35</b>	0.22	0.16
Eosinophil	<i>CLC</i>	-0.02	0.15	0.15	0.04	0.29	0.27	<b>0.62</b>	<b>0.59</b>	<b>0.64</b>	<b>0.47</b>	<b>0.56</b>
Eosinophil	<i>IL5RA</i>	0.04	0.06	0.06	0.13	0.01	0.02	0.14	0.13	0.06	-0.01	0.03
Epithelium-related	<i>ACPP</i>	0.00	-0.09	-0.09	0.08	0.03	-0.04	0.06	-0.02	-0.04	-0.03	0.02
Epithelium-related	<i>MUC4</i>	0.19	0.08	0.08	0.13	0.16	<b>0.35</b>	<b>0.45</b>	<b>0.50</b>	<b>0.52</b>	<b>0.36</b>	<b>0.31</b>
Fibrosis	<i>AREG</i>	-0.05	0.03	0.03	0.00	-0.04	0.13	0.02	-0.01	-0.03	-0.06	-0.01
Fibrosis	<i>BMP3</i>	-0.10	-0.10	-0.10	-0.01	-0.24	<b>-0.40</b>	<b>-0.55</b>	<b>-0.57</b>	<b>-0.64</b>	<b>-0.48</b>	<b>-0.46</b>
Fibrosis	<i>COL2A1</i>	-0.21	-0.15	-0.15	-0.08	-0.05	<b>-0.31</b>	-0.24	<b>-0.32</b>	<b>-0.34</b>	-0.22	-0.21
Inflammatory response	<i>ANXA1</i>	0.11	0.10	0.10	0.06	0.23	<b>0.45</b>	<b>0.39</b>	<b>0.44</b>	<b>0.46</b>	<b>0.34</b>	<b>0.38</b>
Inflammatory response	<i>DUOX2</i>	-0.07	0.11	0.11	0.04	<b>0.32</b>	0.18	<b>0.34</b>	<b>0.38</b>	<b>0.37</b>	0.20	0.20
Inflammatory response	<i>DUOX2</i>	-0.01	0.14	0.14	0.09	<b>0.32</b>	-0.01	0.21	0.20	0.19	0.13	0.10
Ion transportation	<i>S100G</i>	-0.16	-0.15	-0.15	0.06	0.01	0.01	-0.06	-0.12	-0.09	-0.25	-0.19
Ion transportation	<i>SLC26A7</i>	-0.13	-0.14	-0.14	-0.04	-0.04	<b>-0.36</b>	<b>-0.33</b>	<b>-0.40</b>	<b>-0.42</b>	-0.24	-0.21
Mast cell	<i>CPA3</i>	-0.04	0.00	0.00	-0.01	0.24	0.19	<b>0.40</b>	<b>0.39</b>	<b>0.43</b>	0.30	<b>0.38</b>
Mast cell	<i>HPGDS</i>	-0.01	0.09	0.08	0.08	0.28	0.19	<b>0.43</b>	<b>0.45</b>	<b>0.49</b>	<b>0.36</b>	<b>0.42</b>

Neurosensory	<i>GABRA1</i>	-0.12	-0.14	-0.14	0.04	-0.10	-0.27	<b>-0.44</b>	<b>-0.49</b>	<b>-0.50</b>	<b>-0.41</b>	<b>-0.49</b>
Neurosensory	<i>GLDN</i>	-0.08	-0.12	-0.12	0.01	-0.10	-0.28	<b>-0.57</b>	<b>-0.59</b>	<b>-0.62</b>	<b>-0.57</b>	<b>-0.51</b>
Neurosensory	<i>NPY</i>	-0.11	-0.16	-0.16	-0.11	-0.06	-0.23	<b>-0.43</b>	<b>-0.55</b>	<b>-0.59</b>	<b>-0.39</b>	<b>-0.43</b>
Neurosensory	<i>TAC1</i>	-0.02	-0.08	-0.08	-0.06	-0.11	-0.11	<b>-0.40</b>	<b>-0.35</b>	<b>-0.39</b>	<b>-0.38</b>	<b>-0.38</b>
Neutrophil	<i>CXCL8</i>	0.27	0.09	0.09	0.05	0.24	0.15	0.22	0.18	0.22	0.24	0.17
Neutrophil	<i>NCF2</i>	0.18	-0.10	-0.10	0.08	0.29	0.09	<b>0.30</b>	0.27	0.25	0.21	0.25
Other	<i>CHIA</i>	-0.14	-0.15	-0.15	-0.12	0.06	-0.08	0.03	-0.09	-0.09	-0.01	-0.02
Other	<i>ITLN1</i>	-0.25	0.14	0.14	-0.07	0.11	0.16	<b>0.40</b>	<b>0.45</b>	<b>0.47</b>	<b>0.33</b>	<b>0.33</b>
Stomach-related	<i>ATP4A</i>	-0.11	-0.10	-0.10	-0.05	-0.01	<b>-0.36</b>	-0.28	<b>-0.37</b>	<b>-0.37</b>	-0.24	-0.25
Stomach-related	<i>CCK</i>	-0.02	0.12	0.12	0.02	0.16	0.10	0.02	0.01	0.04	0.00	-0.03
Stomach-related	<i>PGA4</i>	-0.15	-0.02	-0.02	-0.04	0.04	-0.24	-0.06	-0.14	-0.14	-0.03	-0.07
Stomach-related	<i>SST</i>	-0.09	-0.14	-0.14	-0.06	-0.12	-0.29	<b>-0.53</b>	<b>-0.56</b>	<b>-0.60</b>	<b>-0.52</b>	<b>-0.57</b>
Stomach-related	<i>TCNI</i>	0.01	0.14	0.14	0.00	0.26	0.26	<b>0.34</b>	<b>0.39</b>	<b>0.41</b>	0.20	<b>0.30</b>

Correlations by functional groupings of genes are shown. The text within the cell indicates the Spearman r value. Values in boldface indicate absolute Spearman r > 0.3 with nominal statistical significance ( $P < .05$ ). Red shading indicates positive correlations, whereas blue shading indicates negative correlations. *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EMT*, epithelial-mesenchymal transition; *AIC*, acute inflammatory cells; *EoG*, eosinophil glandulitis; *EoGA*, eosinophil gland abscess; *EoM*, eosinophils in muscularis; *EoSE*, eosinophils in surface epithelium; *LPES*, lamina propria eosinophil sheets; *LPF*, lamina propria fibroplasia; *LPSMH*, lamina propria smooth muscle hyperplasia; *PCC*, periglandular circumferential collars; *REC*, reactive epithelial changes; *SEU*, surface erosion/ulceration.

**Supplementary Table 6.** Spearman correlations between EG endoscopic features and a diagnostic subset of the EG transcriptome

Representative Functionality	EGDP Genes	Nodularity	Granularity	Folds	Friability Bleeding	Erythema	Erosion Ulceration
Antimicrobial defense	<i>DEFB1</i>	<b>-0.41</b>	<b>-0.38</b>	-0.26	-0.18	-0.10	0.00
Antimicrobial defense	<i>KLK7</i>	0.17	0.21	0.26	0.17	0.22	0.15
Cell adhesion	<i>CDH26</i>	<b>0.45</b>	<b>0.49</b>	<b>0.35</b>	<b>0.31</b>	0.28	0.23
Cell adhesion	<i>MADCAM1</i>	-0.14	-0.07	-0.15	-0.12	-0.12	-0.09
Cytokine/Chemokine	<i>CCL11</i>	-0.09	-0.18	0.02	<b>-0.30</b>	-0.10	-0.16
Cytokine/Chemokine	<i>CCL18</i>	<b>0.44</b>	<b>0.38</b>	0.25	0.24	0.11	-0.02
Cytokine/Chemokine	<i>CCL24</i>	<b>0.48</b>	<b>0.49</b>	<b>0.30</b>	0.15	0.22	0.06
Cytokine/Chemokine	<i>CCL26</i>	<b>0.55</b>	<b>0.53</b>	<b>0.39</b>	<b>0.30</b>	<b>0.36</b>	0.13
Cytokine/Chemokine	<i>IL13</i>	0.19	0.26	0.20	0.02	0.05	0.05
Cytokine/Chemokine	<i>IL13RA2</i>	<b>0.49</b>	<b>0.51</b>	<b>0.31</b>	<b>0.32</b>	0.24	0.14
Cytokine/Chemokine	<i>IL17A</i>	0.11	0.02	0.08	-0.02	-0.27	0.05
Cytokine/Chemokine	<i>IL1RL1</i>	<b>0.32</b>	<b>0.30</b>	0.03	0.09	-0.02	-0.12
Cytokine/Chemokine	<i>IL33</i>	<b>-0.36</b>	<b>-0.46</b>	-0.18	<b>-0.39</b>	<b>-0.41</b>	-0.24
Cytokine/Chemokine	<i>IL4</i>	-0.15	-0.16	0.01	-0.16	-0.23	-0.06
Cytokine/Chemokine	<i>IL5</i>	<b>0.47</b>	<b>0.47</b>	<b>0.33</b>	0.21	0.17	0.17
EMT/Hypoxia	<i>EGLN3</i>	0.26	0.28	0.15	0.26	0.20	0.00
EMT/Hypoxia	<i>HIF1A</i>	0.11	0.04	0.26	-0.08	-0.06	-0.14
EMT/Hypoxia	<i>TGFBR1</i>	-0.11	-0.14	-0.15	-0.18	-0.28	-0.24
Eosinophil	<i>CCR3</i>	0.23	0.20	0.15	0.19	0.10	0.11
Eosinophil	<i>CLC</i>	<b>0.40</b>	<b>0.32</b>	0.29	0.17	0.12	0.05
Eosinophil	<i>IL5RA</i>	-0.06	-0.10	0.05	-0.16	-0.01	0.01
Epithelium-related	<i>ACPP</i>	-0.12	-0.13	-0.24	<b>-0.34</b>	-0.22	-0.09
Epithelium-related	<i>MUC4</i>	<b>0.46</b>	<b>0.43</b>	0.27	0.22	0.26	0.19
Fibrosis	<i>AREG</i>	0.03	-0.02	-0.09	0.13	0.18	0.00
Fibrosis	<i>BMP3</i>	<b>-0.42</b>	<b>-0.40</b>	-0.21	-0.28	<b>-0.32</b>	-0.19
Fibrosis	<i>COL2A1</i>	<b>-0.46</b>	<b>-0.38</b>	-0.25	-0.29	<b>-0.43</b>	-0.11
Inflammatory response	<i>ANXA1</i>	<b>0.36</b>	<b>0.35</b>	0.23	<b>0.35</b>	<b>0.35</b>	0.24
Inflammatory response	<i>DUOX2</i>	<b>0.35</b>	0.27	<b>0.32</b>	0.14	0.04	-0.05
Inflammatory response	<i>DUOX2</i>	<b>0.35</b>	0.22	0.19	0.09	0.00	-0.06
Ion transportation	<i>S100G</i>	<b>-0.34</b>	<b>-0.35</b>	-0.18	-0.20	-0.21	-0.02
Ion transportation	<i>SLC26A7</i>	<b>-0.41</b>	<b>-0.47</b>	-0.22	<b>-0.38</b>	<b>-0.38</b>	-0.22
Mast cell	<i>CPA3</i>	-0.08	-0.04	0.19	-0.13	-0.02	-0.03
Mast cell	<i>HPGDS</i>	0.09	0.06	0.20	-0.02	0.09	0.02

Neurosensory	<i>GABRA1</i>	<b>-0.31</b>	<b>-0.33</b>	-0.25	<b>-0.33</b>	<b>-0.35</b>	<b>-0.37</b>
Neurosensory	<i>GLDN</i>	<b>-0.35</b>	<b>-0.41</b>	-0.27	-0.16	-0.29	-0.14
Neurosensory	<i>NPY</i>	<b>-0.50</b>	<b>-0.41</b>	-0.20	-0.30	<b>-0.32</b>	-0.11
Neurosensory	<i>TAC1</i>	<b>-0.30</b>	<b>-0.34</b>	-0.12	-0.07	-0.08	-0.12
Neutrophil	<i>CXCL8</i>	<b>0.46</b>	<b>0.32</b>	0.08	<b>0.39</b>	0.20	0.10
Neutrophil	<i>NCF2</i>	0.30	0.20	0.04	0.03	0.05	-0.05
Other	<i>CHIA</i>	<b>-0.34</b>	-0.29	-0.16	<b>-0.37</b>	-0.27	-0.21
Other	<i>ITLN1</i>	0.04	0.05	0.24	-0.07	0.01	-0.08
Stomach-related	<i>ATP4A</i>	<b>-0.35</b>	<b>-0.39</b>	-0.19	<b>-0.45</b>	<b>-0.33</b>	-0.15
Stomach-related	<i>CCK</i>	0.14	0.12	-0.11	0.17	0.06	-0.15
Stomach-related	<i>PGA4</i>	-0.23	-0.27	-0.16	<b>-0.34</b>	<b>-0.31</b>	-0.13
Stomach-related	<i>SST</i>	<b>-0.46</b>	<b>-0.38</b>	-0.28	-0.19	-0.30	-0.18
Stomach-related	<i>TCN1</i>	0.30	0.25	0.22	0.12	0.06	-0.12

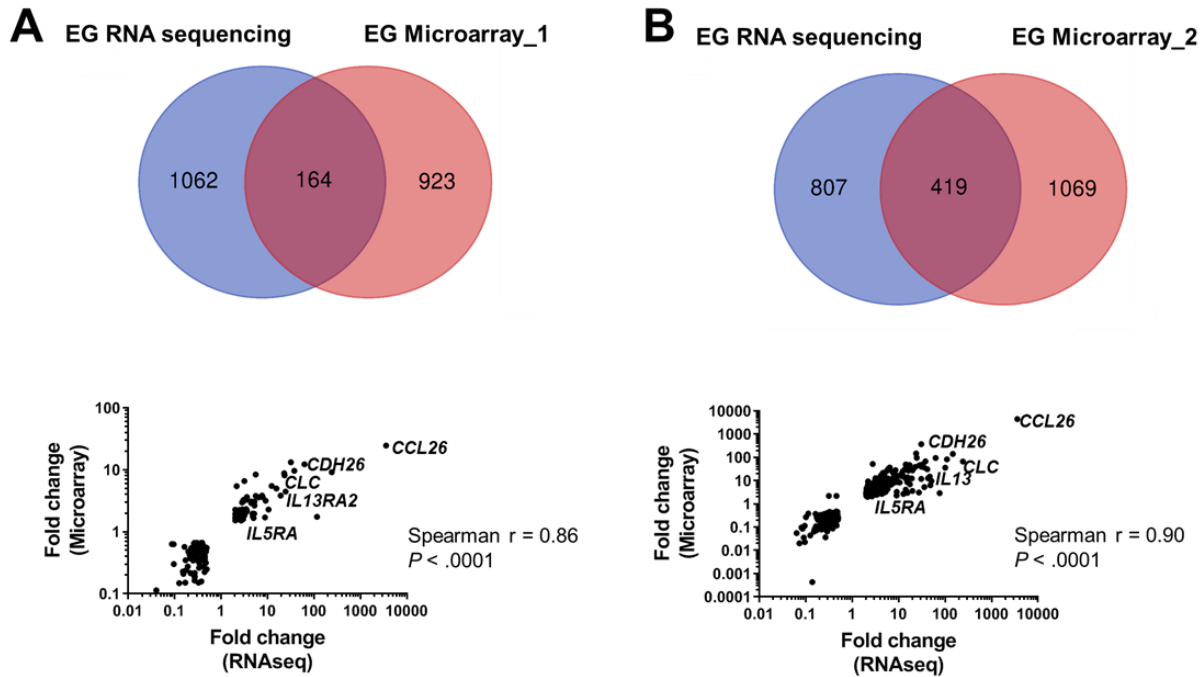
Correlations by functional groupings of genes are shown. The text within the cell indicates the Spearman r value. Values in boldface indicate absolute Spearman r > 0.3 with nominal statistical significance ( $P < .05$ ). Red shading indicates positive correlations, whereas blue shading indicates negative correlations. *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EMT*, epithelial-mesenchymal transition.

**Supplementary Table 7.** Circulating biomarker levels of non-EG and active EG groups

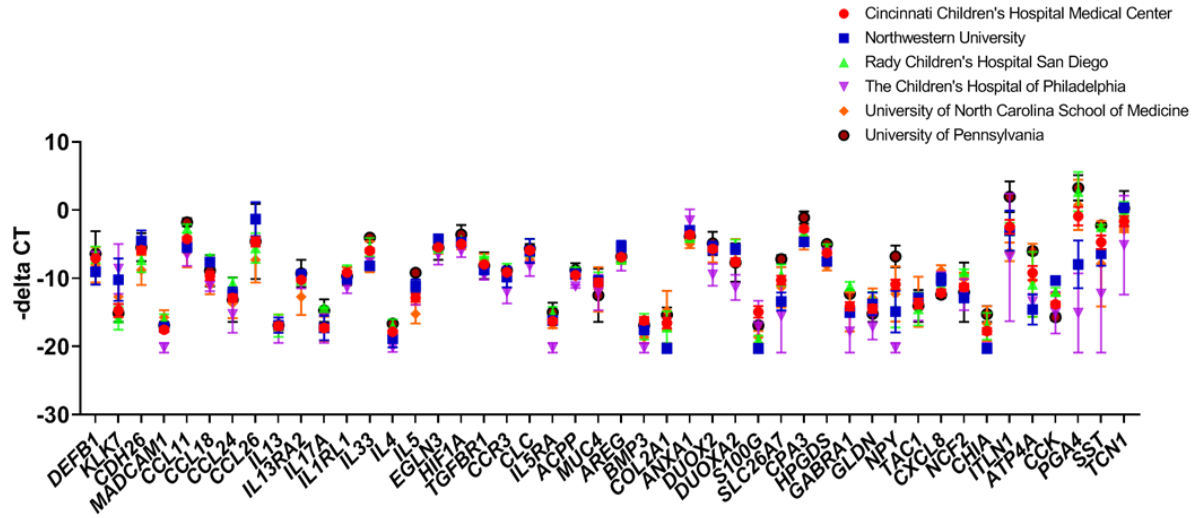
	Plasma		Adjusted <i>P</i> value	Serum		Adjusted <i>P</i> value
	Non-EG	Active EG		Non-EG	Active EG	
Eotaxin	629.2 ± 31.2	659.7 ± 76.8	5.2980	169.3 ± 8.0	219.5 ± 25.3	1.5110
Eotaxin-2	1434.2 ± 160.1	1139.1 ± 173.6	9.2383	2644.4 ± 380.9	2721.2 ± 484.8	5.7235
Eotaxin-3	103.6 ± 5.9	481.1 ± 175.6	<b>&lt; 0.0001</b>	23.5 ± 2.4	738.0 ± 543.7	<b>0.0024</b>
IL-13	3.3 ± 0.2	3.7 ± 1	9.7238	3.2 ± 0.3	2.7 ± 0.4	6.4881
IL-1 $\alpha$	0.1 ± 0	0.1 ± 0.1	7.4777	0.4 ± 0.2	0.1 ± 0.1	0.0688
IL-33	1.9 ± 0.2	3.3 ± 1.1	0.6035	0.9 ± 0.1	3.0 ± 0.9	0.1891
IL-4	0.1 ± 0	0.2 ± 0	3.4244	0.1 ± 0	0.1 ± 0	0.4048
IL-5	0.7 ± 0.1	3.6 ± 1.3	<b>0.0107</b>	0.6 ± 0.1	3.7 ± 1.1	<b>0.0084</b>
TARC	74.1 ± 5.1	135.3 ± 25.8	<b>0.0050</b>	311.4 ± 34.7	603.4 ± 141.3	0.6132
TSLP	4.7 ± 0.3	7.8 ± 2.1	0.8648	3.6 ± 0.3	8.0 ± 0.8	<b>&lt; 0.0001</b>

Data are mean ± SEM. *EG*, eosinophilic gastritis; *FDR*, false-discovery rate; *SEM*, standard error of the mean; *TARC*, thymus- and activation-regulated chemokine; *TSLP*, thymic stromal lymphopoietin.

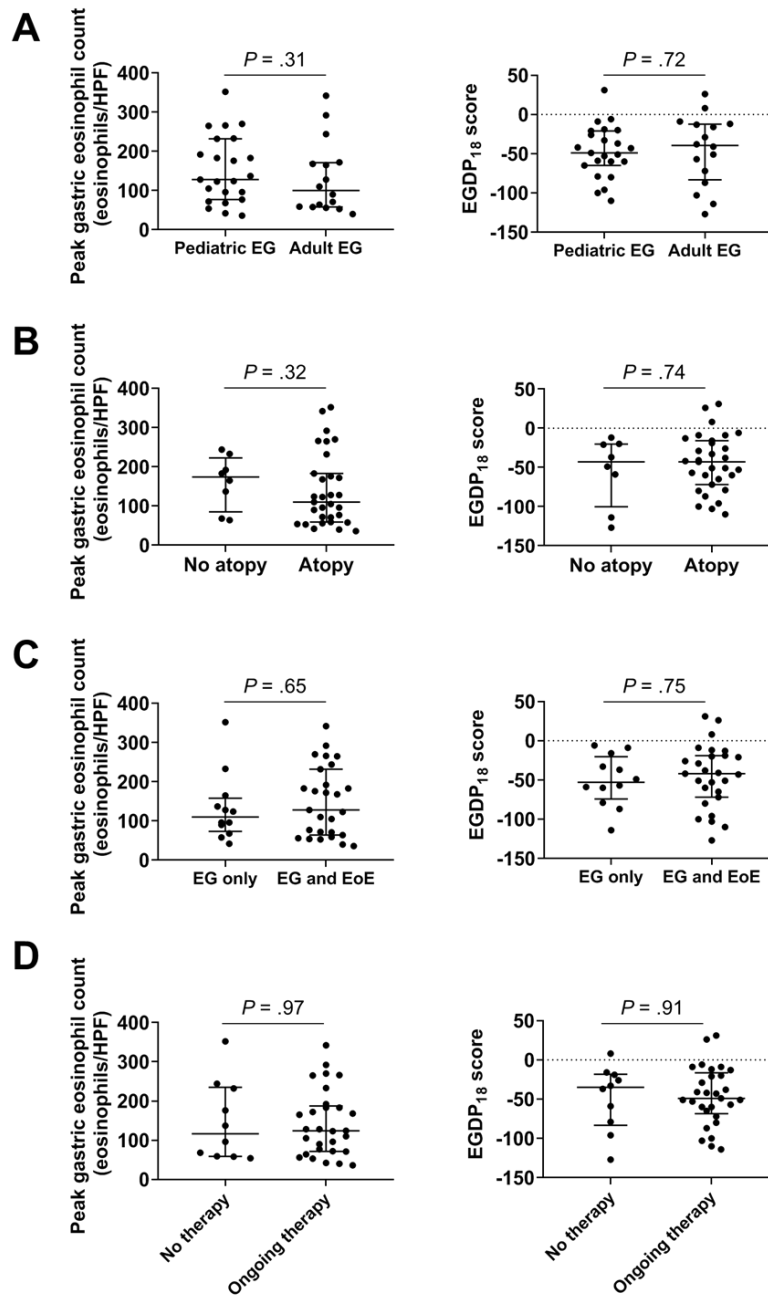




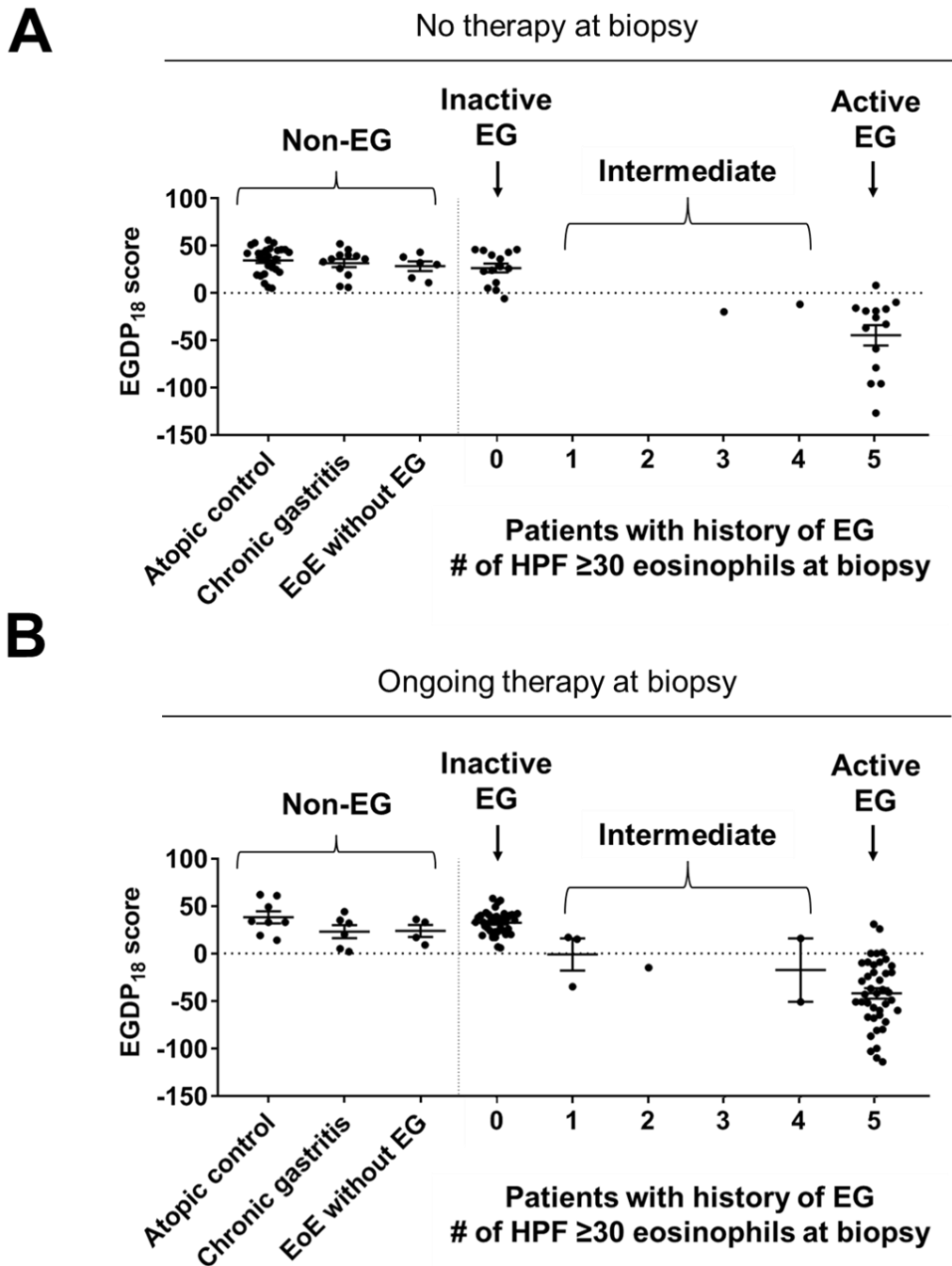
**Supplementary Figure 1.** Comparison between EG transcriptome genes identified by RNA sequencing and previously published microarray data. Venn diagrams comparing the number of genes identified as dysregulated in EG (FDR  $P < .05$ ,  $\geq 2$ -fold change) across different studies (A, Microarray\_1; B, Microarray\_2, *upper panels*). Spearman correlations comparing fold-change values for the overlapping genes identified as dysregulated by each datasets (A, Microarray\_1; B, Microarray\_2, *lower panels*). Microarray\_1 was from *J Allergy Clin Immunol.* 2014 and Microarray\_2 was from *J Allergy Clin Immunol Pract.* 2017. EG, eosinophilic gastritis; FDR, false-discovery rate.



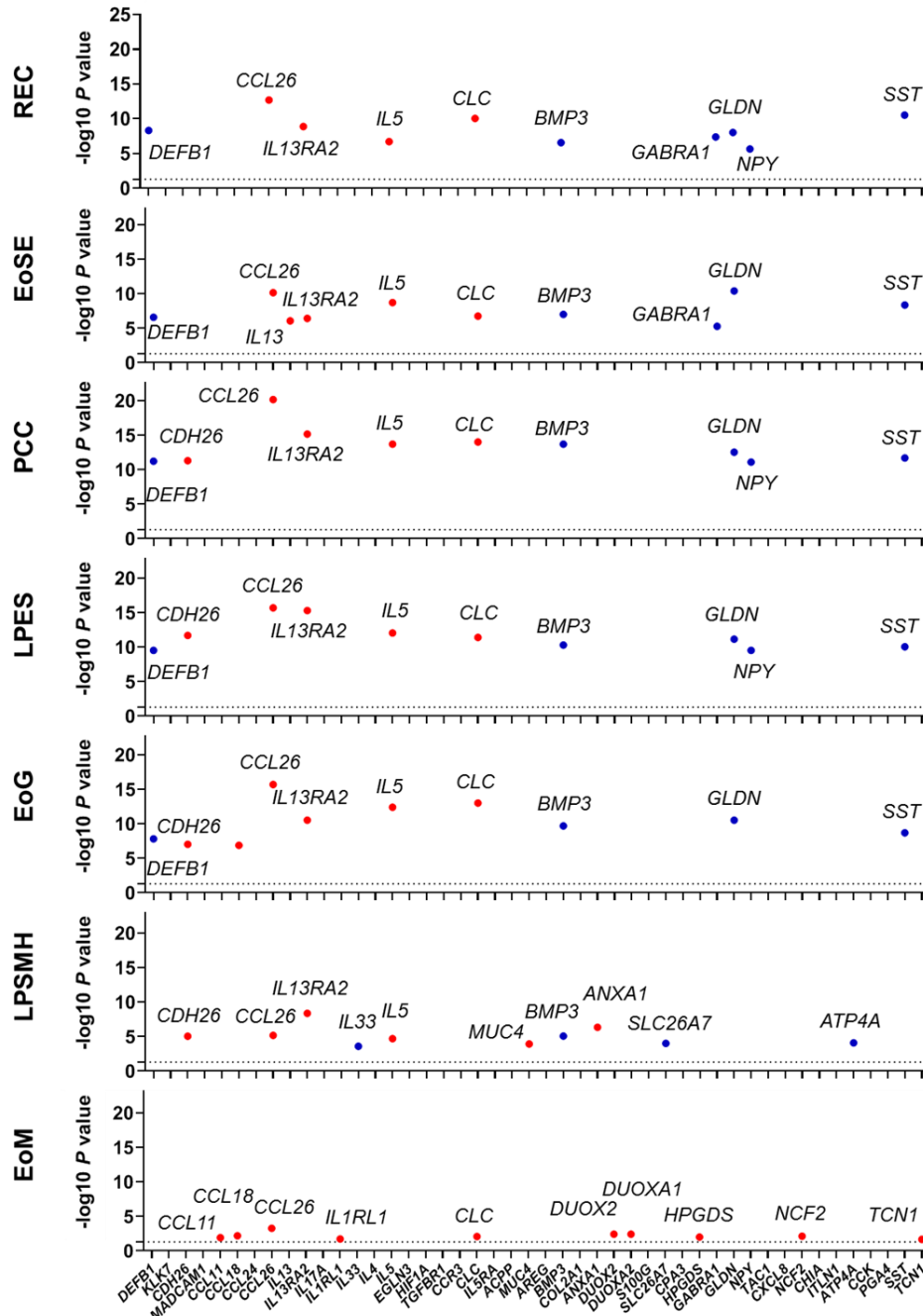
**Supplementary Figure 2.** EGDP performance across the sites in the discovery cohort. Distributions of individual gene expressions among patients with active EG from various sites were graphed. Data points represent median of subject data by site; error bars show interquartile range. *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel.



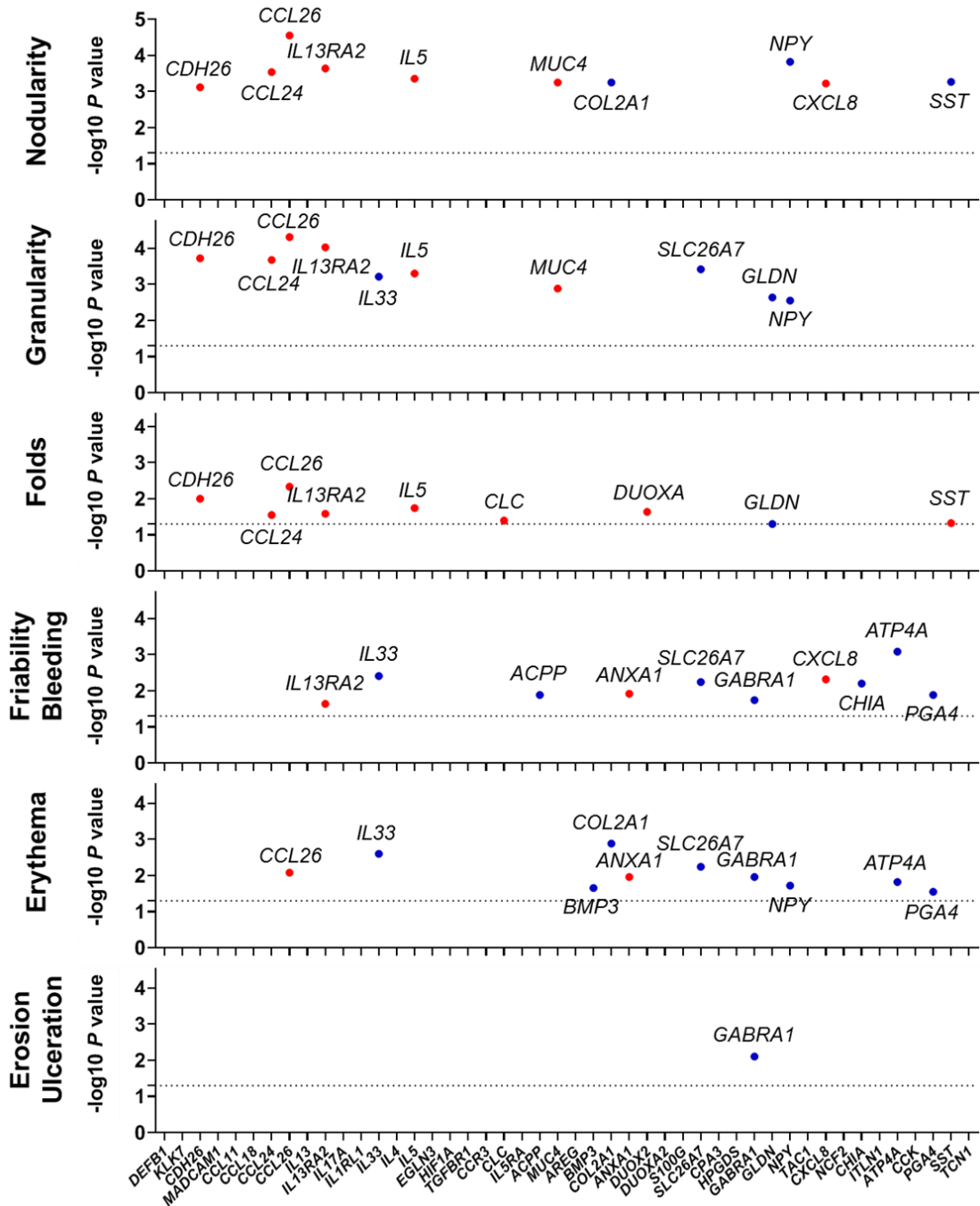
**Supplementary Figure 3.** Comparison of EGDP<sub>18</sub> score across clinically stratified patients with active EG. **A - D**, Comparison of peak gastric eosinophil counts (*left*) among patients with active EG when stratified by clinical characteristics (age, atopic status, co-existence of EoE, and treatment status at biopsy). Comparison of the EGDP<sub>18</sub> score (*right*) across age groups (pediatric vs. adult patients) (A), atopic status (atopy vs. no atopy) (B), co-existence of EoE (EG only vs. EG and EoE) (C), and treatment status at biopsy (ongoing therapy including diet and steroids vs. no therapy) (D). Line and error bars show the median and interquartile range, respectively. Data points represent individual subjects. *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EoE*, eosinophilic esophagitis.



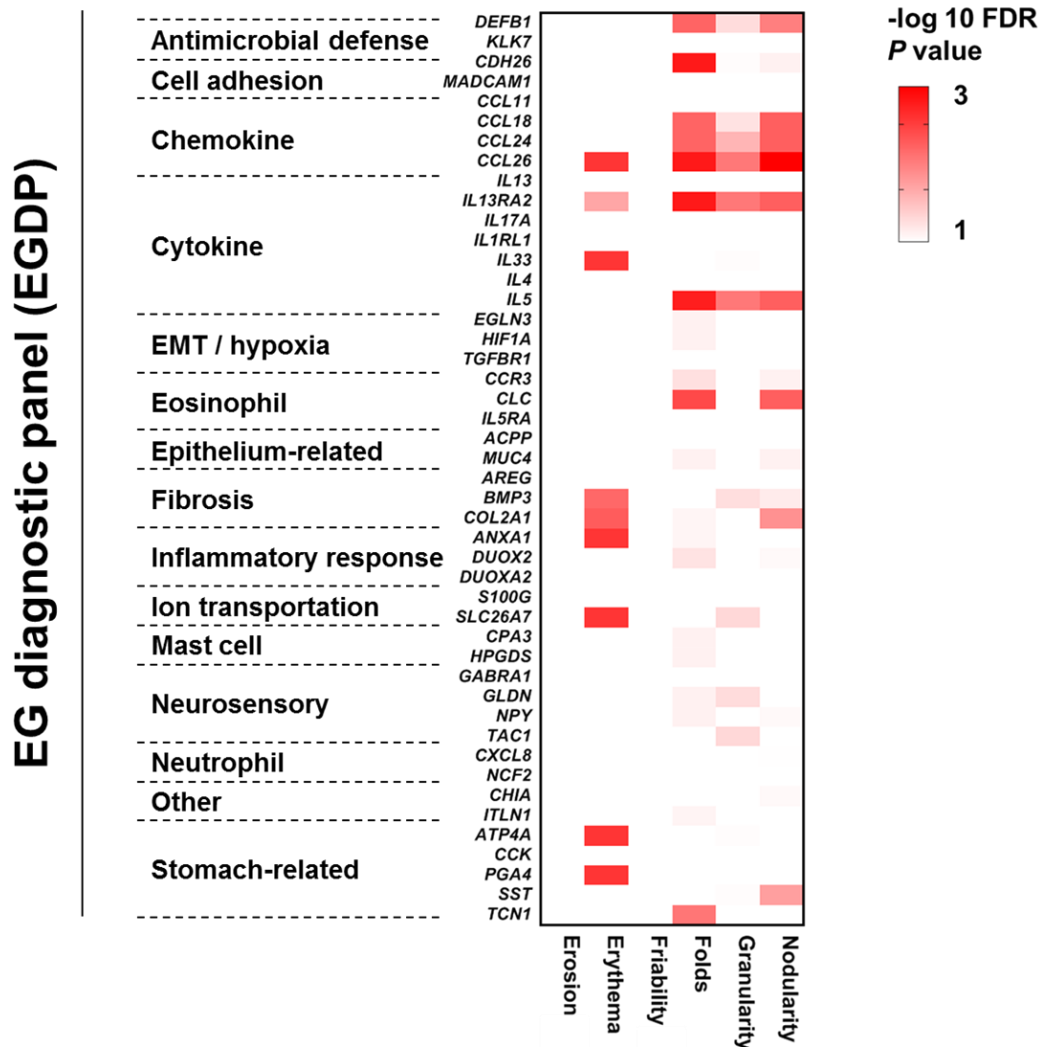
**Supplementary Figure 4.** EGDP<sub>18</sub> score as a function of patient groups stratified by the treatment status at biopsy (A, no therapy; B, ongoing therapy). Line and error bars show the median and interquartile range, respectively. Data points represent individual subjects. EG, eosinophilic gastritis; EGDP, eosinophilic gastritis diagnostic panel; EoE, eosinophilic esophagitis.



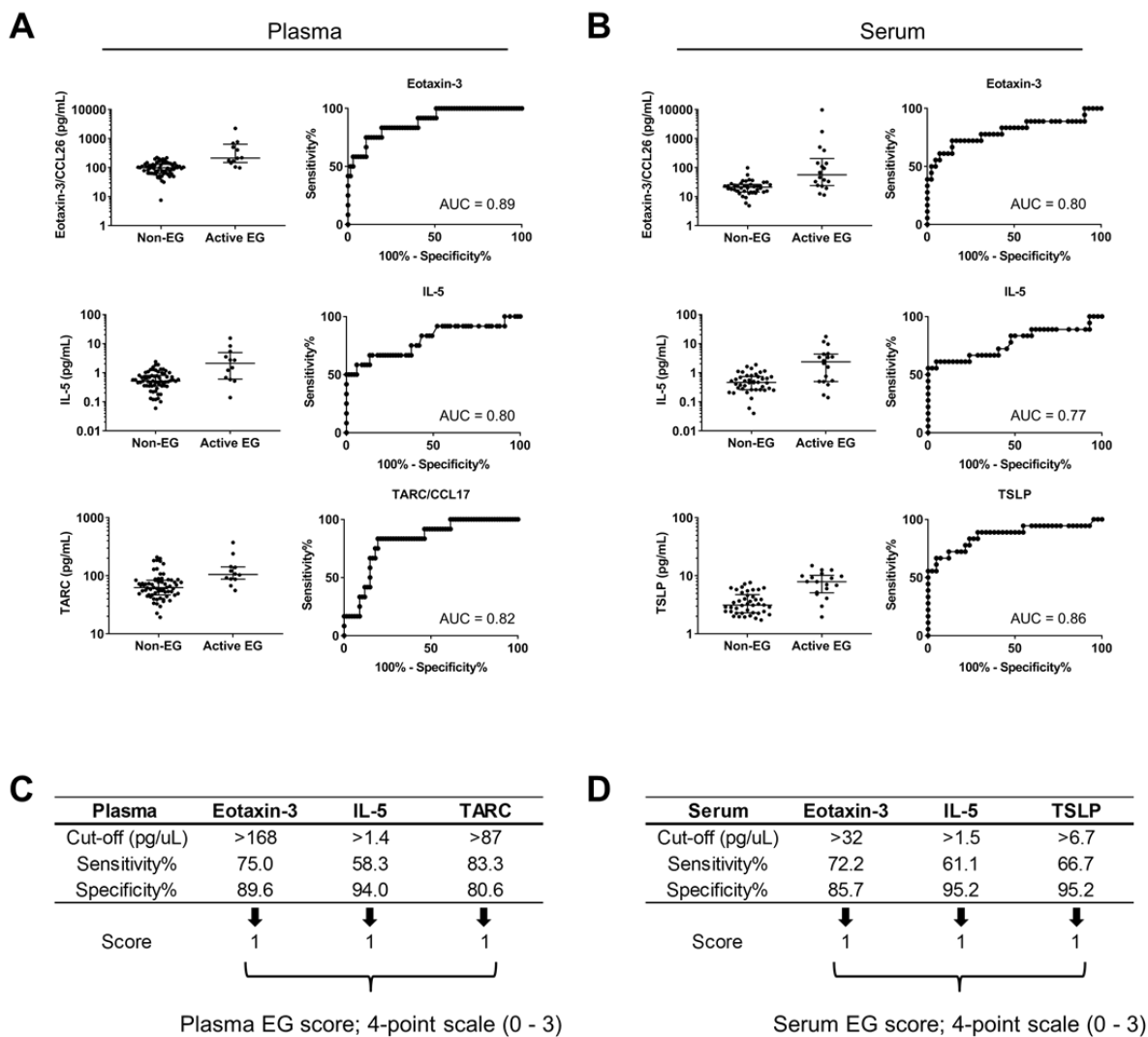
**Supplementary Figure 5.** Correlations between EG histologic features and a diagnostic subset of the EG transcriptome. The y axis represents the negative  $\log_{10} P$  value of the Spearman correlation between 7 eosinophilic gastritis (EG) histologic features and a diagnostic subset of genes from the EG transcriptome (eosinophilic gastritis diagnostic panel [EGDP]). The x axis represents the top 10 genes for each feature ( $P < .05$ ). A red dot indicates a positive correlation, and a blue dot indicates a negative correlation. The dashed line indicates  $P < .05$ . *EoG*, eosinophil glandulitis; *EoM*, eosinophils in muscularis mucosa; *EoSE*, eosinophils in surface epithelium; *LPES*, lamina propria eosinophil sheets; *LPSMH*, lamina propria smooth muscle hyperplasia; *PCC*, periglandular circumferential collars; *REC*, reactive epithelial changes.



**Supplementary Figure 6.** Correlations between EG endoscopic features and a diagnostic subset of the EG transcriptome. The y axis represents the negative log<sub>10</sub> *P* value of the Spearman correlation between 6 eosinophilic gastritis (EG) endoscopic features and a diagnostic subset of genes from the EG transcriptome (eosinophilic gastritis diagnostic panel [EGDP]). The x axis represents the top 10 genes for each feature ( $P < .05$ ). A red dot indicates a positive correlation, and a blue dot indicates a negative correlation. The dashed line indicates  $P < .05$ .



**Supplementary Figure 7.** Heat map showing  $-\log_{10}$  FDR  $P$  value determined by differential expression between patients with EG with or without a specific endoscopic feature by the Mann-Whitney  $U$  test. A tile is displayed if the FDR  $P$  value  $< .05$  for each gene in the 46-gene panel (y axis), as distributed among endoscopic features (x axis). The darker the color is, the stronger the differential gene expression. *EG*, eosinophilic gastritis; *EGDP*, eosinophilic gastritis diagnostic panel; *EMT*, epithelial-to-mesenchymal transition; *FDR*, false-discovery rate.



**Supplementary Figure 8.** Development of blood EG score based on significantly increased biomarkers. **A** and **B**, Levels of 3 biomarkers between the non-EG patients and patients with EG in the (A) plasma and (B) serum cohort (*left panels*). Line and error bars show the median and interquartile range, respectively. Data points represent individual subjects. ROC curves and performances of each biomarkers in the (A) plasma and (B) serum cohort (*right panels*). **C** and **D**, Scoring systems for plasma (C) and serum (D) established by dysregulated biomarker levels. *AUC*, area under the curve; *EG*, eosinophilic gastritis; *ROC*, receiver operating characteristic.



**List of EG transcriptome genes identified by RNA sequencing**

<b>Name</b>	<b>Ensembl annotation</b>	<b>Fold change</b>	<b>FDR p-value</b>
<i>CCL26</i>	ENSG00000006606	3590.94	1.00E-15
<i>ITLN1</i>	ENSG00000179914	243.47	1.00E-15
<i>SNORD3D_1</i>	ENSG00000277947	233.86	1.24E-05
<i>SH2D1B</i>	ENSG00000198574	146.87	1.00E-15
<i>LINC02577</i>	ENSG00000228742	133.06	2.94E-09
<i>HSD3B2</i>	ENSG00000203859	116.93	1.00E-15
<i>C8B</i>	ENSG00000021852	110.09	3.47E-05
<i>TREML2</i>	ENSG00000112195	100.99	1.00E-15
<i>TNFRSF6B</i>	ENSG00000243509	77.00	4.65E-04
<i>KLK7</i>	ENSG00000169035	68.34	4.86E-07
<i>CDH26</i>	ENSG00000124215	62.79	1.00E-15
<i>TBC1D3E</i>	ENSG00000278599	56.19	3.47E-03
<i>ADAMTS20</i>	ENSG00000173157	51.27	1.52E-06
<i>SERPINB2</i>	ENSG00000197632	50.92	1.00E-15
<i>ALOX15</i>	ENSG00000161905	48.33	1.00E-15
<i>AC092892.1</i>	ENSG00000242770	47.63	1.31E-07
<i>WDR72</i>	ENSG00000166415	47.08	1.00E-15
<i>AL157815.1</i>	ENSG00000282865	44.51	1.29E-04
<i>AC015563.2</i>	ENSG00000264982	43.97	4.44E-03
<i>AC079062.1</i>	ENSG00000263711	43.39	9.97E-05
<i>PRB1</i>	ENSG00000251655	43.30	8.12E-08
<i>AL159152.1</i>	ENSG00000283097	43.00	4.19E-03
<i>PSG3</i>	ENSG00000221826	42.16	2.30E-03
<i>IL13</i>	ENSG00000169194	41.46	3.19E-07
<i>AL132780.3</i>	ENSG00000259132	40.61	1.00E-02
<i>GPC5</i>	ENSG00000179399	39.06	1.00E-15
<i>MS4A3</i>	ENSG00000149516	38.61	6.18E-05
<i>CLC</i>	ENSG00000105205	37.91	1.00E-15
<i>C4BPA</i>	ENSG00000123838	37.61	2.73E-07
<i>GNAT3</i>	ENSG00000214415	35.76	2.19E-09
<i>CEBPE</i>	ENSG00000092067	35.24	9.18E-11
<i>DUOXA2</i>	ENSG00000140274	31.88	1.00E-15
<i>BPIFB1</i>	ENSG00000125999	31.86	1.00E-15
<i>PADI4</i>	ENSG00000159339	31.43	8.89E-07
<i>AL356118.1</i>	ENSG00000282864	31.30	1.31E-10
<i>VSTM1</i>	ENSG00000189068	30.99	1.54E-07
<i>CCL13</i>	ENSG00000181374	30.89	1.00E-15
<i>PRB2</i>	ENSG00000121335	30.81	2.85E-09
<i>LINC02300</i>	ENSG00000258175	29.94	1.00E-02
<i>PGA4</i>	ENSG00000229183	29.62	1.56E-04
<i>SAA1</i>	ENSG00000173432	28.33	1.37E-06
<i>HIST1H4K</i>	ENSG00000273542	28.17	5.20E-04

<i>GSDMC</i>	ENSG00000147697	27.53	4.18E-10
<i>ADGRG3</i>	ENSG00000182885	26.82	1.00E-15
<i>AC020895.2</i>	ENSG00000280091	26.44	4.85E-06
<i>SNORA50A_2</i>	ENSG00000281910	25.07	5.00E-02
<i>TCN1</i>	ENSG00000134827	24.59	1.00E-15
<i>SLC4A1</i>	ENSG00000004939	24.53	2.40E-04
<i>OLFM4</i>	ENSG00000102837	23.94	1.35E-05
<i>REG1B</i>	ENSG00000172023	23.83	2.81E-03
<i>ADGRG7</i>	ENSG00000144820	23.83	2.25E-05
<i>CCDC190</i>	ENSG00000185860	23.79	1.21E-06
<i>MUC4</i>	ENSG00000145113	23.44	1.00E-15
<i>CCL18</i>	ENSG00000275385	23.04	1.00E-15
<i>LINC02431</i>	ENSG00000248872	22.31	3.31E-04
<i>ADGRE3</i>	ENSG00000131355	21.02	1.00E-15
<i>CCR3</i>	ENSG00000183625	20.03	2.17E-12
<i>LINP1</i>	ENSG00000223784	19.96	1.00E-02
<i>LGALS12</i>	ENSG00000133317	19.88	4.24E-08
<i>LINC02418</i>	ENSG00000214039	19.59	4.26E-05
<i>HBD</i>	ENSG00000223609	19.46	3.35E-05
<i>IL13RA2</i>	ENSG00000123496	19.26	1.00E-15
<i>AC126564.1</i>	ENSG00000280217	19.17	4.00E-02
<i>OLIG2</i>	ENSG00000205927	18.45	3.40E-05
<i>AC016866.3</i>	ENSG00000280335	18.29	2.52E-09
<i>CCL23</i>	ENSG00000274736	17.62	5.84E-05
<i>ADGRE1</i>	ENSG00000174837	17.44	1.00E-15
<i>CASC19</i>	ENSG00000254166	17.40	1.00E-15
<i>SERPINA3</i>	ENSG00000196136	17.35	2.95E-10
<i>HMX3</i>	ENSG00000188620	17.32	4.00E-02
<i>AP001150.1</i>	ENSG00000259541	17.31	7.01E-07
<i>AC016168.3</i>	ENSG00000280122	17.24	8.48E-04
<i>SLC28A3</i>	ENSG00000197506	16.97	1.00E-15
<i>TAT</i>	ENSG00000198650	16.96	9.83E-09
<i>CCDC129</i>	ENSG00000180347	16.95	1.00E-15
<i>AC025278.1</i>	ENSG00000268845	16.55	5.00E-02
<i>OLIG1</i>	ENSG00000184221	16.42	1.51E-04
<i>CHI3L1</i>	ENSG00000133048	16.19	3.31E-09
<i>CCL24</i>	ENSG00000106178	15.88	1.00E-15
<i>AC097478.1</i>	ENSG00000251095	15.83	3.60E-05
<i>DUOX2</i>	ENSG00000140279	15.71	1.00E-15
<i>HRH4</i>	ENSG00000134489	15.56	5.08E-10
<i>PTPRO</i>	ENSG00000151490	15.38	1.00E-15
<i>AB015752.1</i>	ENSG00000254180	15.17	3.00E-02
<i>PI3</i>	ENSG00000124102	14.82	1.38E-12
<i>SAA2</i>	ENSG00000134339	14.52	6.22E-05

<i>HBE1</i>	ENSG00000213931	14.27	2.00E-02
<i>HTR3C</i>	ENSG00000178084	14.26	2.03E-05
<i>GF11B</i>	ENSG00000165702	14.26	1.26E-08
<i>SERPINB4</i>	ENSG00000206073	13.69	3.98E-04
<i>SH2D7</i>	ENSG00000183476	13.68	1.00E-15
<i>LINC01630</i>	ENSG00000227115	13.27	4.49E-03
<i>PSG7</i>	ENSG00000221878	13.24	3.98E-03
<i>AL162456.1</i>	ENSG00000282997	13.01	4.88E-03
<i>TREML4</i>	ENSG00000188056	12.91	2.00E-02
<i>CCDC60</i>	ENSG00000183273	12.75	1.82E-05
<i>LINC02042</i>	ENSG00000240893	12.53	1.74E-03
<i>BMX</i>	ENSG00000102010	12.36	1.00E-15
<i>PIWIL1</i>	ENSG00000125207	12.29	5.44E-06
<i>AP000904.1</i>	ENSG00000273415	12.20	2.00E-02
<i>HKDC1</i>	ENSG00000156510	12.16	4.46E-10
<i>CDH3</i>	ENSG00000062038	11.99	1.00E-15
<i>C6orf58</i>	ENSG00000184530	11.93	8.35E-06
<i>AC139749.1</i>	ENSG00000254872	11.77	1.00E-15
<i>ACTC1</i>	ENSG00000159251	11.68	3.15E-08
<i>NRK</i>	ENSG00000123572	11.64	1.11E-04
<i>AC111000.4</i>	ENSG00000250696	11.62	6.24E-07
<i>PROK1</i>	ENSG00000143125	11.60	1.36E-03
<i>AP005137.2</i>	ENSG00000272703	11.57	1.66E-03
<i>AC012321.1</i>	ENSG00000260772	11.40	8.33E-04
<i>CELA1</i>	ENSG00000139610	11.34	5.00E-02
<i>TBC1D3C</i>	ENSG00000278299	11.25	2.55E-03
<i>SLCO1B3</i>	ENSG00000111700	10.92	1.00E-02
<i>AMY1C</i>	ENSG00000187733	10.75	4.00E-02
<i>CCK</i>	ENSG00000187094	10.63	1.48E-09
<i>HTR3E</i>	ENSG00000186038	10.45	7.43E-11
<i>AC097478.3</i>	ENSG00000276542	10.29	1.00E-02
<i>LINC02073</i>	ENSG00000267452	10.11	2.89E-03
<i>WFDC21P</i>	ENSG00000261040	10.06	1.48E-08
<i>AL034397.3</i>	ENSG00000274536	10.00	7.24E-11
<i>UCN2</i>	ENSG00000145040	9.85	4.00E-02
<i>PRSS33</i>	ENSG00000103355	9.84	6.60E-05
<i>ABCA12</i>	ENSG00000144452	9.81	4.82E-05
<i>KRT2</i>	ENSG00000172867	9.75	2.00E-02
<i>HK3</i>	ENSG00000160883	9.56	6.65E-13
<i>CLEC4G</i>	ENSG00000182566	9.49	4.73E-06
<i>ALKALI</i>	ENSG00000196711	9.36	1.74E-03
<i>AL355916.1</i>	ENSG00000250548	9.31	2.16E-06
<i>CHAT</i>	ENSG00000070748	9.28	7.26E-03
<i>LY6D</i>	ENSG00000167656	9.26	1.00E-02

<i>ERBB4</i>	ENSG00000178568	9.18	1.72E-06
<i>MUC5B</i>	ENSG00000117983	9.17	1.98E-13
<i>DDX53</i>	ENSG00000184735	9.16	4.03E-03
<i>NLRP12</i>	ENSG00000142405	9.14	5.41E-05
<i>C6orf223</i>	ENSG00000181577	9.08	3.01E-06
<i>TRPM5</i>	ENSG00000070985	9.08	2.91E-13
<i>PRSS2</i>	ENSG00000275896	8.87	6.13E-03
<i>ALAS2</i>	ENSG00000158578	8.77	2.10E-03
<i>CT83</i>	ENSG00000204019	8.76	3.00E-02
<i>ZPLD1</i>	ENSG00000170044	8.75	1.00E-04
<i>SFTPA2</i>	ENSG00000185303	8.67	1.00E-02
<i>AL583785.1</i>	ENSG00000226197	8.64	3.23E-03
<i>NFE2</i>	ENSG00000123405	8.58	4.37E-07
<i>CD200R1L</i>	ENSG00000206531	8.44	3.00E-02
<i>UNC5D</i>	ENSG00000156687	8.43	5.32E-10
<i>LTF</i>	ENSG00000012223	8.40	2.12E-07
<i>CHURC1-FNTB</i>	ENSG00000125954	8.37	3.00E-02
<i>TRIM15</i>	ENSG00000204610	8.35	4.21E-11
<i>AMY2A</i>	ENSG00000243480	8.29	2.00E-02
<i>GABRA4</i>	ENSG00000109158	8.21	7.19E-08
<i>PSG1</i>	ENSG00000231924	8.16	8.32E-04
<i>VNN3</i>	ENSG00000093134	8.11	9.89E-05
<i>AL158064.2</i>	ENSG00000284196	8.09	2.00E-02
<i>AL033397.1</i>	ENSG00000231683	8.05	1.00E-02
<i>OR52K1</i>	ENSG00000196778	7.97	7.04E-03
<i>PLA2G2A</i>	ENSG00000188257	7.96	2.37E-03
<i>WFDC2</i>	ENSG00000101443	7.89	1.00E-15
<i>ANXA13</i>	ENSG00000104537	7.82	1.18E-09
<i>GUCA1A</i>	ENSG00000048545	7.81	5.76E-03
<i>TRIM7</i>	ENSG00000146054	7.65	1.48E-11
<i>AC243829.4</i>	ENSG00000277089	7.53	4.28E-05
<i>C8A</i>	ENSG00000157131	7.50	2.56E-06
<i>MMP12</i>	ENSG00000262406	7.48	3.80E-06
<i>PSG5</i>	ENSG00000204941	7.46	3.00E-02
<i>PSG8</i>	ENSG00000124467	7.39	8.81E-03
<i>LINC00443</i>	ENSG00000230156	7.34	2.67E-04
<i>RNU5F-1</i>	ENSG00000199377	7.32	1.89E-04
<i>RNASE2</i>	ENSG00000169385	7.31	1.00E-02
<i>CAPN14</i>	ENSG00000214711	7.29	2.00E-02
<i>AC011511.5</i>	ENSG00000267607	7.29	5.00E-02
<i>CIQTNF1-AS1</i>	ENSG00000265096	7.28	4.00E-02
<i>RNU5A-8P</i>	ENSG00000200972	7.25	9.86E-04
<i>SPSB4</i>	ENSG00000175093	7.24	3.50E-03
<i>CIQTNF1</i>	ENSG00000173918	7.21	1.00E-15

<i>MLC1</i>	ENSG00000100427	7.21	1.40E-07
<i>IL19</i>	ENSG00000142224	7.09	4.77E-05
<i>HRK</i>	ENSG00000135116	7.03	5.47E-03
<i>PSG6</i>	ENSG00000170848	6.92	7.74E-03
<i>AC090753.1</i>	ENSG00000254000	6.91	4.83E-04
<i>LIPG</i>	ENSG00000101670	6.91	1.00E-15
<i>AC009163.2</i>	ENSG00000260092	6.88	5.27E-06
<i>AC079298.2</i>	ENSG00000280005	6.85	2.00E-02
<i>DSCAM</i>	ENSG00000171587	6.83	3.63E-03
<i>GLB1L3</i>	ENSG00000166105	6.79	3.59E-05
<i>SHD</i>	ENSG00000105251	6.79	1.00E-02
<i>AC025524.2</i>	ENSG00000254119	6.73	2.00E-02
<i>AL359095.1</i>	ENSG00000230001	6.69	2.81E-05
<i>CTRB2</i>	ENSG00000168928	6.69	4.00E-02
<i>AL049839.2</i>	ENSG00000273259	6.63	2.00E-02
<i>AC044839.2</i>	ENSG00000255226	6.51	2.00E-02
<i>EGLN3</i>	ENSG00000129521	6.51	1.00E-15
<i>CLDN2</i>	ENSG00000165376	6.49	5.58E-06
<i>LINC02009</i>	ENSG00000283646	6.43	2.72E-07
<i>CXCL5</i>	ENSG00000163735	6.42	1.92E-03
<i>HIF1A-AS2</i>	ENSG00000258667	6.36	6.56E-05
<i>GCGR</i>	ENSG00000215644	6.36	2.00E-02
<i>SH2D6</i>	ENSG00000152292	6.12	3.21E-11
<i>RN7SKP266</i>	ENSG00000222164	6.11	4.00E-02
<i>LITD1</i>	ENSG00000240563	6.09	1.00E-02
<i>AC078789.1</i>	ENSG00000257880	6.06	1.00E-02
<i>RETREG1</i>	ENSG00000154153	6.05	1.00E-15
<i>LINC01235</i>	ENSG00000270547	6.05	2.69E-04
<i>AC108463.3</i>	ENSG00000271590	6.04	2.67E-03
<i>NPTX1</i>	ENSG00000171246	6.00	7.03E-04
<i>AP000873.3</i>	ENSG00000254551	5.99	2.00E-02
<i>ST3GAL4</i>	ENSG00000110080	5.91	1.00E-15
<i>AC011389.3</i>	ENSG00000279752	5.85	3.00E-02
<i>AL031283.3</i>	ENSG00000236045	5.84	6.30E-05
<i>SELP</i>	ENSG00000174175	5.80	1.00E-15
<i>CAPN13</i>	ENSG00000162949	5.80	1.00E-15
<i>HBA1</i>	ENSG00000206172	5.77	2.19E-03
<i>HPDL</i>	ENSG00000186603	5.74	1.00E-15
<i>CD300LF</i>	ENSG00000186074	5.74	3.41E-07
<i>SEMG1</i>	ENSG00000124233	5.71	4.00E-02
<i>KCNE1</i>	ENSG00000180509	5.70	3.93E-05
<i>GP2</i>	ENSG00000169347	5.69	1.48E-05
<i>UTS2</i>	ENSG00000049247	5.68	9.25E-03
<i>LINC01665</i>	ENSG00000235343	5.65	6.90E-03

<i>ANXA1</i>	ENSG00000135046	5.62	1.95E-12
<i>EREG</i>	ENSG00000124882	5.61	2.71E-04
<i>RGS13</i>	ENSG00000127074	5.60	5.05E-11
<i>KYAT1</i>	ENSG00000171097	5.55	1.00E-15
<i>ADAMDEC1</i>	ENSG00000134028	5.53	2.12E-09
<i>TMIGD3</i>	ENSG00000121933	5.51	1.29E-06
<i>IL11</i>	ENSG00000095752	5.51	1.00E-02
<i>SLC9B2</i>	ENSG00000164038	5.49	1.00E-15
<i>RAB44</i>	ENSG00000255587	5.49	1.17E-06
<i>MDF1</i>	ENSG00000112559	5.48	2.59E-07
<i>TNFRSF10C</i>	ENSG00000173535	5.45	1.76E-06
<i>CRISP2</i>	ENSG00000124490	5.39	3.00E-02
<i>HPR</i>	ENSG00000261701	5.30	4.53E-03
<i>NCF2</i>	ENSG00000116701	5.28	5.43E-11
<i>GAPT</i>	ENSG00000175857	5.26	1.08E-06
<i>FAM155A-IT1</i>	ENSG00000227248	5.23	2.00E-02
<i>PLA2G3</i>	ENSG00000100078	5.22	7.14E-06
<i>GCNT3</i>	ENSG00000140297	5.20	1.00E-15
<i>HDAC9</i>	ENSG00000048052	5.18	1.45E-09
<i>CD300LB</i>	ENSG00000178789	5.17	1.23E-05
<i>AC068491.3</i>	ENSG00000270190	5.13	3.00E-02
<i>DAB1</i>	ENSG00000173406	5.10	5.43E-07
<i>SNCA</i>	ENSG00000145335	5.10	4.74E-06
<i>CLNK</i>	ENSG00000109684	5.08	9.84E-09
<i>RN7SL471P</i>	ENSG00000263426	5.08	2.09E-03
<i>IL1RL1</i>	ENSG00000115602	5.04	1.88E-10
<i>CHST6</i>	ENSG00000183196	5.02	1.84E-03
<i>AL162727.1</i>	ENSG00000233817	5.01	2.00E-02
<i>CHST5</i>	ENSG00000135702	5.01	1.65E-08
<i>RHOXF2B</i>	ENSG00000203989	5.01	3.00E-02
<i>HOXB7</i>	ENSG00000260027	4.94	1.65E-03
<i>AC084048.1</i>	ENSG00000249334	4.93	2.00E-02
<i>DLGAP1-AS5</i>	ENSG00000261520	4.93	4.36E-03
<i>CFI</i>	ENSG00000205403	4.92	9.08E-09
<i>CP</i>	ENSG00000047457	4.91	4.06E-06
<i>GATA1</i>	ENSG00000102145	4.90	1.00E-02
<i>RNU5E-1</i>	ENSG00000199347	4.89	2.00E-02
<i>AL355312.3</i>	ENSG00000273132	4.89	7.43E-04
<i>ALDH1A2</i>	ENSG00000128918	4.89	1.79E-05
<i>ACOXL</i>	ENSG00000153093	4.88	1.00E-02
<i>SRARP</i>	ENSG00000183888	4.87	2.00E-02
<i>SMIM33</i>	ENSG00000283288	4.85	6.98E-05
<i>IL5RA</i>	ENSG00000091181	4.84	4.38E-07
<i>INO80C</i>	ENSG00000153391	4.78	1.00E-15

<i>ALDH3B2</i>	ENSG00000132746	4.77	5.23E-03
<i>ITGA2B</i>	ENSG00000005961	4.76	1.13E-03
<i>ADH6</i>	ENSG00000172955	4.75	9.04E-08
<i>STAB2</i>	ENSG00000136011	4.74	1.56E-04
<i>CD274</i>	ENSG00000120217	4.72	1.17E-12
<i>SLC6A14</i>	ENSG00000268104	4.64	7.95E-07
<i>TRIM10</i>	ENSG00000204613	4.63	2.47E-05
<i>TNS4</i>	ENSG00000131746	4.63	1.37E-07
<i>CXCL8</i>	ENSG00000169429	4.62	1.00E-02
<i>AL603840.1</i>	ENSG00000234810	4.61	3.51E-03
<i>AC011603.2</i>	ENSG00000258017	4.60	4.06E-03
<i>HCK</i>	ENSG00000101336	4.58	3.57E-12
<i>RD3</i>	ENSG00000198570	4.56	2.00E-02
<i>CLDN4</i>	ENSG00000189143	4.54	6.41E-06
<i>AREG</i>	ENSG00000109321	4.53	4.28E-05
<i>DCLK3</i>	ENSG00000163673	4.52	5.00E-02
<i>CD55</i>	ENSG00000196352	4.50	1.00E-15
<i>AC007998.5</i>	ENSG00000279074	4.50	5.80E-03
<i>AC013549.2</i>	ENSG00000254688	4.49	5.00E-02
<i>ST3GAL6</i>	ENSG00000064225	4.47	1.00E-15
<i>TNFSF11</i>	ENSG00000120659	4.47	2.22E-03
<i>SLC28A2</i>	ENSG00000137860	4.47	3.30E-04
<i>AL138752.2</i>	ENSG00000255872	4.45	3.00E-02
<i>GLYATL2</i>	ENSG00000156689	4.45	2.00E-02
<i>LINC01013</i>	ENSG00000228495	4.44	2.85E-03
<i>INHBA</i>	ENSG00000122641	4.43	9.45E-05
<i>FAM95C</i>	ENSG00000283486	4.42	2.92E-10
<i>GPR87</i>	ENSG00000138271	4.41	2.00E-02
<i>MMP1</i>	ENSG00000196611	4.40	5.43E-11
<i>RN7SL449P</i>	ENSG00000242889	4.38	2.00E-02
<i>NOXO1</i>	ENSG00000196408	4.37	1.00E-02
<i>NABP1</i>	ENSG00000173559	4.34	1.32E-12
<i>AC004990.1</i>	ENSG00000232756	4.34	1.00E-02
<i>PKHD1L1</i>	ENSG00000205038	4.34	2.44E-07
<i>AC007906.2</i>	ENSG00000277639	4.31	1.15E-05
<i>FGFBP1</i>	ENSG00000137440	4.26	2.62E-03
<i>CDA</i>	ENSG00000158825	4.25	2.00E-02
<i>FAM3D</i>	ENSG00000198643	4.22	4.10E-11
<i>UPP1</i>	ENSG00000183696	4.22	1.75E-10
<i>AP001453.2</i>	ENSG00000256940	4.22	4.47E-04
<i>CALHM1</i>	ENSG00000185933	4.21	2.00E-02
<i>LCN2</i>	ENSG00000148346	4.19	4.33E-06
<i>AL390726.3</i>	ENSG00000272904	4.18	1.42E-04
<i>RNU5E-6P</i>	ENSG00000202444	4.16	2.00E-02

<i>ADGRF4</i>	ENSG00000153294	4.15	2.00E-02
<i>AP005131.2</i>	ENSG00000267366	4.11	1.88E-03
<i>LINC00839</i>	ENSG00000185904	4.10	4.00E-02
<i>SIGLEC10</i>	ENSG00000142512	4.10	1.65E-05
<i>AVIL</i>	ENSG00000135407	4.07	2.50E-12
<i>CXCR2</i>	ENSG00000180871	4.06	1.60E-03
<i>FCGBP</i>	ENSG00000275395	4.03	1.42E-08
<i>UGT2B11</i>	ENSG00000213759	3.99	2.00E-02
<i>CLDN7</i>	ENSG00000181885	3.97	1.79E-05
<i>AC007998.3</i>	ENSG00000267583	3.97	1.00E-02
<i>AC017002.3</i>	ENSG00000240350	3.96	4.00E-03
<i>CEACAM6</i>	ENSG00000086548	3.96	5.64E-05
<i>LRRC4</i>	ENSG00000128594	3.94	4.35E-08
<i>AC008149.1</i>	ENSG00000258177	3.93	4.00E-02
<i>HPGDS</i>	ENSG00000163106	3.92	1.03E-09
<i>AC026740.1</i>	ENSG00000271781	3.92	3.41E-03
<i>OR2AG2</i>	ENSG00000188124	3.92	2.00E-02
<i>AP005131.7</i>	ENSG00000272746	3.91	2.43E-04
<i>HIST1H1A</i>	ENSG00000124610	3.90	8.61E-06
<i>NOTUM</i>	ENSG00000185269	3.90	2.00E-02
<i>SIRPB1</i>	ENSG00000101307	3.88	7.92E-03
<i>LINC00342</i>	ENSG00000232931	3.87	3.71E-05
<i>HRASLS</i>	ENSG00000127252	3.87	2.00E-02
<i>MFSD2A</i>	ENSG00000168389	3.85	2.72E-05
<i>PTCHD1</i>	ENSG00000165186	3.79	5.12E-03
<i>AC004009.3</i>	ENSG00000279655	3.77	2.00E-02
<i>STAC</i>	ENSG00000144681	3.76	1.00E-02
<i>TPO</i>	ENSG00000115705	3.73	4.60E-04
<i>FAP</i>	ENSG00000078098	3.73	6.08E-04
<i>SERPINA1</i>	ENSG00000197249	3.69	9.76E-06
<i>PIK3R6</i>	ENSG00000276231	3.67	5.30E-05
<i>CD101</i>	ENSG00000134256	3.64	4.23E-05
<i>GPAT3</i>	ENSG00000138678	3.63	5.43E-11
<i>AC005725.1</i>	ENSG00000264727	3.63	3.60E-05
<i>AP000547.3</i>	ENSG00000283633	3.63	1.90E-04
<i>CD1A</i>	ENSG00000158477	3.62	2.03E-03
<i>FMO3</i>	ENSG00000007933	3.62	3.62E-04
<i>ZNF385D</i>	ENSG00000151789	3.62	5.04E-05
<i>SOCS3</i>	ENSG00000184557	3.62	1.49E-07
<i>SIGLEC8</i>	ENSG00000105366	3.62	2.80E-04
<i>FOSB</i>	ENSG00000125740	3.61	3.00E-02
<i>ADGRE2</i>	ENSG00000127507	3.60	1.64E-06
<i>WISP1</i>	ENSG00000104415	3.59	4.70E-04
<i>MELTF</i>	ENSG00000163975	3.57	6.15E-07



<i>PSTPIP2</i>	ENSG00000152229	3.57	3.79E-07
<i>ANKRD18A</i>	ENSG00000180071	3.56	2.03E-09
<i>F3</i>	ENSG00000117525	3.54	9.18E-11
<i>AC051619.5</i>	ENSG00000259520	3.52	5.09E-03
<i>APOL1</i>	ENSG00000100342	3.52	1.18E-09
<i>RN7SL3</i>	ENSG00000278771	3.50	5.70E-12
<i>AC007319.1</i>	ENSG00000224063	3.49	1.33E-03
<i>ENKUR</i>	ENSG00000151023	3.49	4.39E-04
<i>PYGL</i>	ENSG00000100504	3.47	1.25E-06
<i>SOCS1</i>	ENSG00000185338	3.47	1.14E-03
<i>AL031283.2</i>	ENSG00000233485	3.45	1.00E-02
<i>PCSK9</i>	ENSG00000169174	3.45	1.00E-02
<i>LIF</i>	ENSG00000128342	3.45	1.97E-06
<i>SLC5A1</i>	ENSG00000100170	3.44	2.56E-06
<i>AC021483.1</i>	ENSG00000259548	3.43	3.42E-03
<i>MIR3142HG</i>	ENSG00000253522	3.42	6.69E-03
<i>CRYBG2</i>	ENSG00000176092	3.41	1.69E-04
<i>PHEX</i>	ENSG00000102174	3.41	8.88E-03
<i>SMIM25</i>	ENSG00000224397	3.40	3.00E-02
<i>NTRK1</i>	ENSG00000198400	3.39	1.31E-03
<i>NWD2</i>	ENSG00000174145	3.38	1.00E-02
<i>AL512306.2</i>	ENSG00000240219	3.36	6.57E-03
<i>AC099329.1</i>	ENSG00000235288	3.36	2.00E-02
<i>SPP1</i>	ENSG00000118785	3.36	7.42E-03
<i>RAPSN</i>	ENSG00000165917	3.36	4.00E-02
<i>ADAMTS18</i>	ENSG00000140873	3.36	2.00E-02
<i>CYSLTR2</i>	ENSG00000152207	3.35	3.03E-03
<i>AP000688.2</i>	ENSG00000233393	3.35	1.00E-02
<i>PLEKHS1</i>	ENSG00000148735	3.34	5.04E-04
<i>CATSPERB</i>	ENSG00000133962	3.34	2.18E-07
<i>HIF1A</i>	ENSG00000100644	3.33	9.14E-13
<i>ST3GAL6-AS1</i>	ENSG00000239445	3.32	1.00E-02
<i>MUC17</i>	ENSG00000169876	3.32	9.78E-03
<i>FPR1</i>	ENSG00000171051	3.32	1.00E-02
<i>FCAMR</i>	ENSG00000162897	3.31	2.00E-02
<i>TRABD2A</i>	ENSG00000186854	3.29	8.68E-04
<i>AC021683.2</i>	ENSG00000267506	3.29	2.00E-02
<i>AP005131.1</i>	ENSG00000267136	3.28	1.46E-04
<i>AL133373.2</i>	ENSG00000279286	3.26	1.00E-02
<i>TIMP1</i>	ENSG00000102265	3.25	9.18E-11
<i>ANKRD36C</i>	ENSG00000174501	3.24	9.38E-05
<i>SMIM31</i>	ENSG00000248771	3.24	9.51E-03
<i>TCTEX1D1</i>	ENSG00000152760	3.23	1.00E-02
<i>AC068491.4</i>	ENSG00000279191	3.21	1.39E-03

<i>PCDH7</i>	ENSG00000169851	3.21	1.54E-05
<i>PIGR</i>	ENSG00000162896	3.19	2.27E-08
<i>PDZK1IP1</i>	ENSG00000162366	3.18	1.19E-10
<i>AP005131.4</i>	ENSG00000267529	3.18	4.51E-03
<i>CR1</i>	ENSG00000203710	3.17	1.00E-02
<i>GLIS3</i>	ENSG00000107249	3.16	3.56E-10
<i>GAREM2</i>	ENSG00000157833	3.15	6.72E-05
<i>AC083949.1</i>	ENSG00000224875	3.15	4.63E-03
<i>CDX1</i>	ENSG00000113722	3.15	4.00E-02
<i>LAMC2</i>	ENSG00000058085	3.14	2.70E-10
<i>GABRR2</i>	ENSG00000111886	3.14	1.00E-02
<i>OIT3</i>	ENSG00000138315	3.14	1.07E-03
<i>AC007614.6</i>	ENSG00000280189	3.14	5.00E-02
<i>ANGPTL4</i>	ENSG00000167772	3.14	6.97E-04
<i>FFAR2</i>	ENSG00000126262	3.14	2.55E-03
<i>KRT80</i>	ENSG00000167767	3.13	4.00E-02
<i>SPIB</i>	ENSG00000269404	3.13	2.00E-02
<i>TFAP2C</i>	ENSG00000087510	3.13	2.54E-03
<i>CACNB4</i>	ENSG00000182389	3.12	1.24E-03
<i>TFPI</i>	ENSG00000003436	3.12	5.06E-10
<i>SI00A10</i>	ENSG00000197747	3.10	9.89E-08
<i>AC003991.1</i>	ENSG00000228113	3.10	2.00E-02
<i>FUT6</i>	ENSG00000156413	3.10	3.18E-03
<i>LINC00639</i>	ENSG00000259070	3.07	2.00E-02
<i>AL512662.2</i>	ENSG00000283913	3.06	2.00E-02
<i>LDLRAD4-AS1</i>	ENSG00000267690	3.06	4.00E-02
<i>ACPP</i>	ENSG00000014257	3.05	4.64E-07
<i>PTAFR</i>	ENSG00000169403	3.01	1.54E-08
<i>MALL</i>	ENSG00000144063	3.01	6.06E-05
<i>FAM124B</i>	ENSG00000124019	3.01	4.42E-03
<i>CXCL1</i>	ENSG00000163739	3.01	7.95E-03
<i>AMOT</i>	ENSG00000126016	3.01	3.94E-09
<i>F12</i>	ENSG00000131187	3.00	2.00E-02
<i>CLRN3</i>	ENSG00000180745	3.00	8.75E-04
<i>OSCAR</i>	ENSG00000170909	2.99	5.00E-02
<i>AOC1</i>	ENSG00000002726	2.96	1.25E-05
<i>COL17A1</i>	ENSG00000065618	2.96	1.23E-05
<i>CPXM2</i>	ENSG00000121898	2.96	4.78E-04
<i>MADCAM1</i>	ENSG00000099866	2.96	1.00E-02
<i>COCH</i>	ENSG00000100473	2.95	6.15E-04
<i>GRHL3</i>	ENSG00000158055	2.93	1.31E-03
<i>HS3ST1</i>	ENSG00000002587	2.92	2.92E-09
<i>PIK3CG</i>	ENSG00000105851	2.92	1.29E-06
<i>AADAC</i>	ENSG00000114771	2.90	4.30E-08

<i>GRM8</i>	ENSG00000179603	2.90	2.00E-02
<i>AK8</i>	ENSG00000165695	2.89	6.29E-04
<i>AC108134.3</i>	ENSG00000262370	2.89	1.00E-02
<i>SIPAIL2</i>	ENSG00000116991	2.88	8.00E-10
<i>KRT15</i>	ENSG00000171346	2.88	2.07E-03
<i>ADAM23</i>	ENSG00000114948	2.86	3.36E-04
<i>COL23A1</i>	ENSG00000050767	2.86	8.57E-04
<i>CD9</i>	ENSG00000010278	2.86	5.06E-10
<i>DUOXA1</i>	ENSG00000140254	2.86	2.20E-03
<i>SLC6A8</i>	ENSG00000130821	2.85	1.89E-04
<i>DPEP2</i>	ENSG00000167261	2.83	2.07E-03
<i>AP003355.2</i>	ENSG00000272321	2.81	4.00E-02
<i>ZG16B</i>	ENSG00000162078	2.81	2.81E-05
<i>PLCG2</i>	ENSG00000197943	2.81	8.89E-09
<i>SNTG2</i>	ENSG00000172554	2.80	2.00E-02
<i>LST1</i>	ENSG00000204482	2.80	4.80E-03
<i>CPZ</i>	ENSG00000109625	2.79	3.00E-02
<i>AC015871.4</i>	ENSG00000279394	2.79	7.72E-04
<i>LRP8</i>	ENSG00000157193	2.78	1.36E-03
<i>AC017002.1</i>	ENSG00000224959	2.78	2.00E-02
<i>TNC</i>	ENSG00000041982	2.78	3.48E-07
<i>TFF3</i>	ENSG00000160180	2.78	4.00E-02
<i>TREM2</i>	ENSG00000095970	2.77	1.00E-02
<i>MMP13</i>	ENSG00000137745	2.77	3.00E-02
<i>HCN4</i>	ENSG00000138622	2.76	3.60E-03
<i>ALOX5AP</i>	ENSG00000132965	2.75	4.93E-04
<i>KRT7</i>	ENSG00000135480	2.73	9.65E-04
<i>CISH</i>	ENSG00000114737	2.72	1.54E-05
<i>C18orf15</i>	ENSG00000279020	2.72	3.00E-02
<i>SIRPB2</i>	ENSG00000196209	2.71	1.00E-02
<i>ADH1C</i>	ENSG00000248144	2.70	9.15E-04
<i>CILP</i>	ENSG00000138615	2.70	8.69E-03
<i>AP001043.1</i>	ENSG00000205622	2.70	3.00E-02
<i>TRPV4</i>	ENSG00000111199	2.69	6.97E-03
<i>SHISA6</i>	ENSG00000188803	2.69	1.27E-05
<i>RHOA-IT1</i>	ENSG00000235908	2.68	3.00E-02
<i>AC106791.1</i>	ENSG00000250159	2.68	2.70E-03
<i>AL359532.1</i>	ENSG00000272914	2.68	5.00E-02
<i>CALML4</i>	ENSG00000129007	2.68	5.27E-06
<i>LBH</i>	ENSG00000213626	2.67	1.49E-07
<i>ELF5</i>	ENSG00000135374	2.67	3.00E-02
<i>RHOD</i>	ENSG00000173156	2.67	7.62E-06
<i>C11orf53</i>	ENSG00000150750	2.67	5.24E-04
<i>SLC4A11</i>	ENSG00000088836	2.67	4.81E-03

<i>FCGR3A</i>	ENSG00000203747	2.66	3.00E-02
<i>CEP72</i>	ENSG00000112877	2.66	3.20E-03
<i>C3</i>	ENSG00000125730	2.66	3.00E-02
<i>TNFRSF12A</i>	ENSG00000006327	2.65	5.41E-03
<i>AP005131.6</i>	ENSG00000267702	2.65	3.35E-03
<i>CPA3</i>	ENSG00000163751	2.64	4.45E-06
<i>ANKRD18B</i>	ENSG00000230453	2.64	3.00E-02
<i>FAM19A2</i>	ENSG00000198673	2.63	1.18E-03
<i>LINC01504</i>	ENSG00000225434	2.62	1.00E-02
<i>MMP3</i>	ENSG00000149968	2.62	2.00E-02
<i>CARD14</i>	ENSG00000141527	2.61	2.39E-03
<i>ASRGL1</i>	ENSG00000162174	2.60	4.01E-07
<i>MIR4435-2HG</i>	ENSG00000172965	2.59	4.66E-05
<i>COL6A3</i>	ENSG00000163359	2.59	1.18E-09
<i>C10orf128</i>	ENSG00000204161	2.59	1.23E-04
<i>LINC00941</i>	ENSG00000235884	2.59	3.00E-02
<i>CEMIP</i>	ENSG00000103888	2.59	1.00E-02
<i>LRRN2</i>	ENSG00000170382	2.58	2.00E-02
<i>ITGAM</i>	ENSG00000169896	2.57	1.69E-03
<i>IL9R</i>	ENSG00000124334	2.57	2.00E-02
<i>ORC6</i>	ENSG00000091651	2.56	2.29E-05
<i>KIAA1644</i>	ENSG00000138944	2.56	1.34E-03
<i>FHAD1</i>	ENSG00000142621	2.54	2.07E-06
<i>CFB</i>	ENSG00000243649	2.54	1.16E-08
<i>C4B</i>	ENSG00000224389	2.54	1.05E-03
<i>AL139353.1</i>	ENSG00000203546	2.54	3.00E-02
<i>CRIP2</i>	ENSG00000182809	2.54	9.59E-06
<i>GLCE</i>	ENSG00000138604	2.54	5.23E-08
<i>TOE1</i>	ENSG00000132773	2.52	3.37E-06
<i>AC025539.1</i>	ENSG00000251152	2.52	4.00E-02
<i>C4A</i>	ENSG00000244731	2.52	6.85E-03
<i>AC025580.1</i>	ENSG00000259342	2.52	2.00E-02
<i>MMRN1</i>	ENSG00000138722	2.51	9.65E-04
<i>FGR</i>	ENSG00000000938	2.50	3.00E-02
<i>HABP2</i>	ENSG00000148702	2.50	1.69E-04
<i>FADS2</i>	ENSG00000134824	2.49	1.00E-02
<i>AC020656.2</i>	ENSG00000274979	2.49	1.70E-03
<i>ADAMTS4</i>	ENSG00000158859	2.48	3.00E-02
<i>ATP1B3</i>	ENSG00000069849	2.48	2.97E-07
<i>FOXC1</i>	ENSG00000054598	2.48	9.90E-03
<i>PFKP</i>	ENSG00000067057	2.48	1.68E-06
<i>AC016542.2</i>	ENSG00000279502	2.48	2.00E-02
<i>CDRT1</i>	ENSG00000241322	2.48	2.54E-03
<i>AC090229.1</i>	ENSG00000267397	2.48	2.00E-02

<i>IQCA1</i>	ENSG00000132321	2.47	4.00E-02
<i>CADM3-AS1</i>	ENSG00000225670	2.46	2.00E-02
<i>MEOX1</i>	ENSG00000005102	2.46	2.55E-03
<i>NCF1</i>	ENSG00000158517	2.45	5.89E-03
<i>DOC2B</i>	ENSG00000272636	2.45	1.00E-02
<i>NRXN3</i>	ENSG00000021645	2.43	2.00E-02
<i>MME</i>	ENSG00000196549	2.42	5.00E-02
<i>SLC39A8</i>	ENSG00000138821	2.42	1.73E-04
<i>CXCL2</i>	ENSG00000081041	2.41	4.00E-02
<i>ANXA2</i>	ENSG00000182718	2.41	4.73E-06
<i>ATF3</i>	ENSG00000162772	2.40	1.07E-04
<i>MUC6</i>	ENSG00000184956	2.39	6.85E-03
<i>RGS18</i>	ENSG00000150681	2.38	1.00E-02
<i>HRH1</i>	ENSG00000196639	2.38	1.79E-06
<i>GABRP</i>	ENSG00000094755	2.38	4.00E-02
<i>AC083837.1</i>	ENSG00000261618	2.38	2.00E-02
<i>LINC00857</i>	ENSG00000237523	2.38	8.42E-03
<i>NNMT</i>	ENSG00000166741	2.38	6.41E-03
<i>OSBPL3</i>	ENSG00000070882	2.37	3.33E-09
<i>IL3RA</i>	ENSG00000185291	2.37	3.20E-03
<i>AL031283.1</i>	ENSG00000228140	2.35	2.00E-02
<i>GNAI4</i>	ENSG00000156049	2.35	1.00E-02
<i>LDHA</i>	ENSG00000134333	2.35	1.77E-07
<i>TM4SF1</i>	ENSG00000169908	2.34	1.49E-04
<i>KIAA1211</i>	ENSG00000109265	2.34	4.20E-03
<i>AC006064.4</i>	ENSG00000269968	2.34	3.00E-02
<i>MYOF</i>	ENSG00000138119	2.33	5.43E-07
<i>RAB31</i>	ENSG00000168461	2.33	5.61E-08
<i>SNORA80B</i>	ENSG00000206633	2.32	3.00E-02
<i>AC005062.1</i>	ENSG00000243004	2.32	3.00E-02
<i>IQCH</i>	ENSG00000103599	2.31	8.73E-04
<i>ITGAX</i>	ENSG00000140678	2.31	7.38E-03
<i>AC016542.3</i>	ENSG00000280166	2.30	3.00E-02
<i>NFIL3</i>	ENSG00000165030	2.29	1.10E-04
<i>CIDEB</i>	ENSG00000136305	2.29	1.33E-03
<i>AC092718.8</i>	ENSG00000284512	2.29	5.00E-02
<i>SLC38A1</i>	ENSG00000111371	2.27	4.78E-05
<i>FAM155A</i>	ENSG00000204442	2.27	1.00E-02
<i>LILRB2</i>	ENSG00000131042	2.27	1.00E-02
<i>PLA2G7</i>	ENSG00000146070	2.26	4.00E-02
<i>NIPA1</i>	ENSG00000170113	2.26	3.32E-06
<i>AC021483.2</i>	ENSG00000261229	2.26	2.00E-02
<i>HAS3</i>	ENSG00000103044	2.26	1.00E-02
<i>ATP2C2-AS1</i>	ENSG00000261286	2.25	2.00E-02

<i>BTK</i>	ENSG00000010671	2.25	5.24E-03
<i>AC239798.4</i>	ENSG00000273213	2.24	2.00E-02
<i>ITGA10</i>	ENSG00000143127	2.24	9.53E-03
<i>CCL11</i>	ENSG00000172156	2.24	2.00E-02
<i>APOL2</i>	ENSG00000128335	2.24	1.54E-04
<i>CARD11</i>	ENSG00000198286	2.23	1.02E-03
<i>TPST1</i>	ENSG00000169902	2.23	6.31E-06
<i>PDCD1LG2</i>	ENSG00000197646	2.23	3.00E-02
<i>GPRC5A</i>	ENSG00000013588	2.23	9.79E-06
<i>CSF2RB</i>	ENSG00000100368	2.23	3.85E-03
<i>PKM</i>	ENSG00000067225	2.22	4.06E-06
<i>SEMA7A</i>	ENSG00000138623	2.22	2.00E-02
<i>SERTAD4-AS1</i>	ENSG00000203706	2.21	2.00E-02
<i>TNFRSF11A</i>	ENSG00000141655	2.21	1.01E-04
<i>MASP1</i>	ENSG00000127241	2.20	5.00E-02
<i>ZC3H12D</i>	ENSG00000178199	2.20	2.00E-02
<i>AC007364.1</i>	ENSG00000231969	2.19	4.00E-02
<i>BDNF</i>	ENSG00000176697	2.19	2.00E-02
<i>SLFN11</i>	ENSG00000172716	2.19	9.05E-05
<i>CYSLTR1</i>	ENSG00000173198	2.19	7.96E-03
<i>KCNAB1</i>	ENSG00000169282	2.18	3.36E-03
<i>GSN</i>	ENSG00000148180	2.18	8.57E-04
<i>OSMR</i>	ENSG00000145623	2.17	3.79E-06
<i>AHCYL2</i>	ENSG00000158467	2.17	2.81E-05
<i>LINC00896</i>	ENSG00000236499	2.17	2.00E-02
<i>ALPL</i>	ENSG00000162551	2.16	5.00E-02
<i>CYR61</i>	ENSG00000142871	2.16	5.00E-02
<i>ACKR1</i>	ENSG00000213088	2.16	2.00E-02
<i>TBC1D1</i>	ENSG00000065882	2.16	1.37E-07
<i>GPRIN1</i>	ENSG00000169258	2.16	4.00E-02
<i>MEIS1-AS2</i>	ENSG00000230749	2.15	5.00E-02
<i>SSFA2</i>	ENSG00000138434	2.15	2.02E-04
<i>VEPH1</i>	ENSG00000197415	2.15	4.00E-02
<i>ANKDD1B</i>	ENSG00000189045	2.15	9.08E-03
<i>SAMSN1</i>	ENSG00000155307	2.15	2.10E-03
<i>SHC3</i>	ENSG00000148082	2.14	5.00E-02
<i>AL390774.2</i>	ENSG00000230826	2.14	5.00E-02
<i>ARNTL</i>	ENSG00000133794	2.14	5.03E-04
<i>EMPI</i>	ENSG00000134531	2.14	1.09E-03
<i>MTHFS</i>	ENSG00000136371	2.14	1.79E-06
<i>AP001625.2</i>	ENSG00000235772	2.14	4.00E-02
<i>UBXN10</i>	ENSG00000162543	2.13	3.00E-02
<i>ALOX5</i>	ENSG00000012779	2.13	1.09E-03
<i>SORD</i>	ENSG00000140263	2.13	2.80E-05

<i>AC090181.2</i>	ENSG00000269951	2.13	1.00E-02
<i>ENO1</i>	ENSG00000074800	2.12	7.02E-05
<i>MIR34AHG</i>	ENSG00000228526	2.12	3.28E-03
<i>DGKA</i>	ENSG00000065357	2.12	1.09E-03
<i>DUSP10</i>	ENSG00000143507	2.11	1.19E-03
<i>AGT</i>	ENSG00000135744	2.11	1.00E-02
<i>C15orf48</i>	ENSG00000166920	2.11	5.86E-04
<i>SIGLEC6</i>	ENSG00000105492	2.11	3.00E-02
<i>SNPH</i>	ENSG00000101298	2.11	4.02E-04
<i>LSAMP</i>	ENSG00000185565	2.10	1.00E-02
<i>TLL1</i>	ENSG00000038295	2.10	2.00E-02
<i>TBXAS1</i>	ENSG00000059377	2.10	1.36E-04
<i>PRSS3</i>	ENSG00000010438	2.10	3.29E-03
<i>ZNF438</i>	ENSG00000183621	2.10	5.04E-04
<i>KYNU</i>	ENSG00000115919	2.09	3.00E-02
<i>AKR1C1</i>	ENSG00000187134	2.09	3.63E-03
<i>CD209</i>	ENSG00000090659	2.09	3.00E-02
<i>STN1</i>	ENSG00000107960	2.08	1.24E-05
<i>CAVIN3</i>	ENSG00000170955	2.08	6.93E-04
<i>CD44</i>	ENSG00000026508	2.08	1.32E-04
<i>P2RY2</i>	ENSG00000175591	2.08	4.00E-02
<i>SMOX</i>	ENSG00000088826	2.08	3.00E-02
<i>S100A16</i>	ENSG00000188643	2.07	1.35E-04
<i>COL7A1</i>	ENSG00000114270	2.07	2.14E-03
<i>TPK1</i>	ENSG00000196511	2.07	2.96E-03
<i>KRT19</i>	ENSG00000171345	2.07	2.00E-02
<i>ETS2</i>	ENSG00000157557	2.07	5.94E-08
<i>SLC22A3</i>	ENSG00000146477	2.06	6.08E-04
<i>FMNL2</i>	ENSG00000157827	2.05	6.72E-05
<i>F2R</i>	ENSG00000181104	2.05	1.40E-03
<i>AGPAT4</i>	ENSG00000026652	2.05	3.74E-03
<i>LRMP</i>	ENSG00000118308	2.05	4.06E-03
<i>MUC13</i>	ENSG00000173702	2.04	1.00E-02
<i>HK1</i>	ENSG00000156515	2.04	4.05E-04
<i>AC025569.1</i>	ENSG00000258168	2.04	4.00E-02
<i>DOCK9</i>	ENSG00000088387	2.04	1.11E-04
<i>AC090181.3</i>	ENSG00000278991	2.04	1.00E-02
<i>BCL2L15</i>	ENSG00000188761	2.03	1.65E-05
<i>KIAA0513</i>	ENSG00000135709	2.03	1.38E-03
<i>G6PD</i>	ENSG00000160211	2.03	4.73E-03
<i>BCYRN1</i>	ENSG00000236824	2.02	2.00E-02
<i>TCIM</i>	ENSG00000176907	2.02	2.00E-02
<i>AFAP1-AS1</i>	ENSG00000272620	2.01	5.00E-02
<i>CCND3</i>	ENSG00000112576	2.01	6.98E-04

<i>LPCAT1</i>	ENSG00000153395	2.00	1.14E-03
<i>PLEKHB1</i>	ENSG00000021300	2.00	2.67E-04
<i>CSRNP3</i>	ENSG00000178662	-2.00	3.85E-03
<i>GPX3</i>	ENSG00000211445	-2.00	5.12E-03
<i>FAM135B</i>	ENSG00000147724	-2.01	4.00E-02
<i>BARX1</i>	ENSG00000131668	-2.01	5.00E-02
<i>TM7SF2</i>	ENSG00000149809	-2.01	2.00E-02
<i>PTMS</i>	ENSG00000159335	-2.01	2.91E-03
<i>PDZK1</i>	ENSG00000174827	-2.02	3.00E-02
<i>CYFIP2</i>	ENSG00000055163	-2.02	5.00E-02
<i>KLHL32</i>	ENSG00000186231	-2.02	5.00E-02
<i>NFIX</i>	ENSG00000008441	-2.02	2.69E-04
<i>ZNF512B</i>	ENSG00000196700	-2.02	1.38E-03
<i>FAHD2B</i>	ENSG00000144199	-2.03	2.03E-03
<i>ZAP70</i>	ENSG00000115085	-2.03	2.00E-02
<i>PSD</i>	ENSG00000059915	-2.03	5.00E-02
<i>MS4A8</i>	ENSG00000166959	-2.03	3.00E-02
<i>MAP6</i>	ENSG00000171533	-2.03	3.00E-02
<i>SSTR1</i>	ENSG00000139874	-2.03	4.21E-03
<i>GDPD1</i>	ENSG00000153982	-2.03	1.11E-04
<i>ZNF677</i>	ENSG00000197928	-2.03	2.13E-04
<i>TMEM47</i>	ENSG00000147027	-2.03	1.33E-03
<i>NR2F1</i>	ENSG00000175745	-2.04	2.00E-02
<i>CDKN1C</i>	ENSG00000129757	-2.04	3.00E-02
<i>IL2RB</i>	ENSG00000100385	-2.04	4.00E-02
<i>AL031587.5</i>	ENSG00000278948	-2.04	4.00E-02
<i>OBSCN</i>	ENSG00000154358	-2.05	1.00E-02
<i>AAMDC</i>	ENSG00000087884	-2.05	2.05E-04
<i>HSPA2</i>	ENSG00000126803	-2.05	2.00E-03
<i>CD2</i>	ENSG00000116824	-2.06	6.08E-03
<i>CD247</i>	ENSG00000198821	-2.06	4.00E-02
<i>RNF150</i>	ENSG00000170153	-2.06	2.00E-02
<i>CD3E</i>	ENSG00000198851	-2.06	3.00E-02
<i>AC004656.1</i>	ENSG00000260822	-2.06	2.85E-03
<i>BEX2</i>	ENSG00000133134	-2.06	3.00E-02
<i>RAB9B</i>	ENSG00000123570	-2.06	9.90E-03
<i>LINC00865</i>	ENSG00000232229	-2.07	2.35E-03
<i>IRS2</i>	ENSG00000185950	-2.07	2.60E-03
<i>ZNF626</i>	ENSG00000188171	-2.07	3.47E-05
<i>AP001062.1</i>	ENSG00000184441	-2.07	2.00E-02
<i>WASF3</i>	ENSG00000132970	-2.09	8.46E-03
<i>ASPG</i>	ENSG00000166183	-2.09	2.00E-02
<i>SEC14L5</i>	ENSG00000103184	-2.09	4.83E-03
<i>CU633906.1</i>	ENSG00000275496	-2.09	1.00E-02



<i>NR1D2</i>	ENSG00000174738	-2.10	2.30E-03
<i>IGSF10</i>	ENSG00000152580	-2.10	4.00E-02
<i>FUT9</i>	ENSG00000172461	-2.10	3.92E-03
<i>SLITRK6</i>	ENSG00000184564	-2.10	2.66E-03
<i>GNG2</i>	ENSG00000186469	-2.10	3.78E-04
<i>SEPT5</i>	ENSG00000184702	-2.10	2.00E-02
<i>ZNRF3</i>	ENSG00000183579	-2.10	3.84E-03
<i>RIMS3</i>	ENSG00000117016	-2.11	2.00E-02
<i>NPIPA2</i>	ENSG00000254852	-2.11	3.00E-02
<i>SYT17</i>	ENSG00000103528	-2.11	5.15E-03
<i>KLHL13</i>	ENSG00000003096	-2.11	8.46E-03
<i>GRIN2A</i>	ENSG00000183454	-2.12	2.00E-02
<i>MSH5-SAPCD1</i>	ENSG00000255152	-2.14	4.73E-03
<i>MAMDC2</i>	ENSG00000165072	-2.14	2.00E-02
<i>ZNF726</i>	ENSG00000213967	-2.14	2.00E-02
<i>NCMAP</i>	ENSG00000184454	-2.15	2.00E-02
<i>DGKG</i>	ENSG00000058866	-2.16	1.00E-02
<i>CSPG4</i>	ENSG00000173546	-2.16	7.10E-04
<i>GATA5</i>	ENSG00000130700	-2.16	1.00E-02
<i>COL16A1</i>	ENSG00000084636	-2.17	2.16E-03
<i>ASPA</i>	ENSG00000108381	-2.17	2.15E-03
<i>PAPSS1</i>	ENSG00000138801	-2.18	2.94E-07
<i>RTN1</i>	ENSG00000139970	-2.18	1.00E-02
<i>PRX</i>	ENSG00000105227	-2.18	3.00E-02
<i>SULT1B1</i>	ENSG00000173597	-2.19	2.70E-03
<i>EIF4EBP3</i>	ENSG00000243056	-2.19	1.00E-02
<i>GFRA1</i>	ENSG00000151892	-2.19	2.07E-03
<i>TSPOAP1</i>	ENSG00000005379	-2.19	4.05E-04
<i>PGR</i>	ENSG00000082175	-2.20	3.00E-02
<i>FAM20C</i>	ENSG00000177706	-2.21	4.03E-03
<i>SLC7A2</i>	ENSG00000003989	-2.21	1.00E-02
<i>COL27A1</i>	ENSG00000196739	-2.21	7.60E-05
<i>DUSP19</i>	ENSG00000162999	-2.22	2.71E-03
<i>SUCNR1</i>	ENSG00000198829	-2.22	4.00E-02
<i>MACROD1</i>	ENSG00000133315	-2.22	7.52E-04
<i>PER1</i>	ENSG00000179094	-2.22	4.00E-02
<i>PER3</i>	ENSG00000049246	-2.23	5.04E-04
<i>NUPRI</i>	ENSG00000176046	-2.23	2.00E-02
<i>ANGPT1</i>	ENSG00000154188	-2.24	7.55E-04
<i>KLRK1</i>	ENSG00000213809	-2.24	3.00E-02
<i>RIMBP2</i>	ENSG00000060709	-2.24	3.00E-02
<i>SYP</i>	ENSG00000102003	-2.24	1.00E-02
<i>ACVR1C</i>	ENSG00000123612	-2.25	7.32E-05
<i>GPR158</i>	ENSG00000151025	-2.25	2.00E-02

<i>PEG10</i>	ENSG00000242265	-2.26	1.00E-02
<i>ADGRG5</i>	ENSG00000159618	-2.26	4.06E-03
<i>ZNF835</i>	ENSG00000127903	-2.26	4.00E-02
<i>HHIP-AS1</i>	ENSG00000248890	-2.27	4.00E-02
<i>ZIK1</i>	ENSG00000171649	-2.28	1.24E-05
<i>ADAMTS5</i>	ENSG00000154736	-2.28	3.71E-04
<i>SCML2</i>	ENSG00000102098	-2.29	3.00E-02
<i>AUTS2</i>	ENSG00000158321	-2.30	2.00E-02
<i>CFAP46</i>	ENSG00000171811	-2.30	1.60E-03
<i>KLRC1</i>	ENSG00000134545	-2.30	3.00E-02
<i>BHLHE41</i>	ENSG00000123095	-2.30	3.00E-02
<i>SCAMP5</i>	ENSG00000198794	-2.30	3.31E-04
<i>PDZD4</i>	ENSG00000067840	-2.30	5.00E-02
<i>PRLR</i>	ENSG00000113494	-2.31	5.22E-07
<i>ST3GAL1</i>	ENSG00000008513	-2.31	1.00E-02
<i>BRSK2</i>	ENSG00000174672	-2.32	1.00E-02
<i>GRIA4</i>	ENSG00000152578	-2.32	4.00E-02
<i>BAIAP3</i>	ENSG00000007516	-2.33	1.00E-02
<i>ZFPM1</i>	ENSG00000179588	-2.33	1.33E-03
<i>GHR</i>	ENSG00000112964	-2.34	2.00E-02
<i>ZNF579</i>	ENSG00000218891	-2.34	2.00E-02
<i>CELSR1</i>	ENSG00000075275	-2.34	9.76E-06
<i>TMEM35A</i>	ENSG00000126950	-2.34	5.00E-02
<i>PTGFR</i>	ENSG00000122420	-2.35	6.83E-03
<i>STK32B</i>	ENSG00000152953	-2.35	4.97E-03
<i>NEURL1</i>	ENSG00000107954	-2.35	4.76E-04
<i>SYT8</i>	ENSG00000149043	-2.35	3.00E-02
<i>AC084859.1</i>	ENSG00000254670	-2.35	4.89E-03
<i>SYT1</i>	ENSG00000067715	-2.36	3.00E-02
<i>SPATC1L</i>	ENSG00000160284	-2.36	2.00E-02
<i>QPCT</i>	ENSG00000115828	-2.37	7.28E-03
<i>TMEM171</i>	ENSG00000157111	-2.37	2.15E-05
<i>KCNQ3</i>	ENSG00000184156	-2.37	4.00E-02
<i>SEZ6L2</i>	ENSG00000174938	-2.37	1.19E-03
<i>CSTA</i>	ENSG00000121552	-2.38	4.32E-03
<i>CCL5</i>	ENSG00000271503	-2.38	7.45E-03
<i>AC093227.1</i>	ENSG00000267152	-2.38	4.00E-02
<i>CD8A</i>	ENSG00000153563	-2.39	6.18E-04
<i>ENPP6</i>	ENSG00000164303	-2.40	4.00E-03
<i>DACT2</i>	ENSG00000164488	-2.40	4.00E-02
<i>TUSC3</i>	ENSG00000104723	-2.40	1.06E-06
<i>LINC00982</i>	ENSG00000177133	-2.41	2.83E-03
<i>DPT</i>	ENSG00000143196	-2.41	2.00E-02
<i>ZMIZ1-AS1</i>	ENSG00000224596	-2.41	4.00E-02

<i>OAF</i>	ENSG00000184232	-2.41	9.82E-05
<i>RUNDC3A</i>	ENSG00000108309	-2.41	2.00E-02
<i>HIF3A</i>	ENSG00000124440	-2.41	4.00E-02
<i>CLGN</i>	ENSG00000153132	-2.42	3.00E-02
<i>PNPLA7</i>	ENSG00000130653	-2.42	9.98E-05
<i>FP565324.1</i>	ENSG00000283199	-2.42	2.00E-02
<i>ZNF667</i>	ENSG00000198046	-2.42	1.00E-02
<i>TMPRSS6</i>	ENSG00000187045	-2.42	1.00E-02
<i>TEF</i>	ENSG00000167074	-2.42	1.74E-03
<i>IL7R</i>	ENSG00000168685	-2.43	1.09E-03
<i>THEMIS</i>	ENSG00000172673	-2.43	2.72E-03
<i>PRKAG2-AS1</i>	ENSG00000239911	-2.43	3.00E-02
<i>RIMS2</i>	ENSG00000176406	-2.43	4.00E-02
<i>MT1X</i>	ENSG00000187193	-2.43	1.00E-02
<i>OTUD1</i>	ENSG00000165312	-2.44	9.97E-05
<i>AL365181.2</i>	ENSG00000272068	-2.45	4.00E-02
<i>PDE6B</i>	ENSG00000133256	-2.45	8.44E-03
<i>RASSF10</i>	ENSG00000189431	-2.45	3.35E-05
<i>GUCY2C</i>	ENSG00000070019	-2.45	1.00E-02
<i>CCDC169</i>	ENSG00000242715	-2.45	1.00E-02
<i>ZNF667-AS1</i>	ENSG00000166770	-2.45	4.41E-03
<i>AATBC</i>	ENSG00000215458	-2.45	3.00E-02
<i>STXBP5L</i>	ENSG00000145087	-2.46	1.09E-03
<i>AC139491.2</i>	ENSG00000248596	-2.46	2.45E-03
<i>ZNF257</i>	ENSG00000197134	-2.46	1.05E-03
<i>ZNF135</i>	ENSG00000176293	-2.46	1.74E-03
<i>NR1H4</i>	ENSG00000012504	-2.47	3.00E-02
<i>NR1I2</i>	ENSG00000144852	-2.48	3.97E-03
<i>RGS6</i>	ENSG00000182732	-2.48	5.00E-02
<i>KCNE2</i>	ENSG00000159197	-2.48	5.00E-02
<i>CELF3</i>	ENSG00000159409	-2.49	2.00E-02
<i>TRIM73</i>	ENSG00000178809	-2.49	2.00E-02
<i>PNMA2</i>	ENSG00000240694	-2.49	3.39E-03
<i>NKX6-3</i>	ENSG00000165066	-2.49	2.00E-02
<i>ADIRF-AS1</i>	ENSG00000272734	-2.49	1.00E-02
<i>MS1I</i>	ENSG00000135097	-2.49	2.00E-02
<i>SDK2</i>	ENSG00000069188	-2.49	3.77E-03
<i>SAMD13</i>	ENSG00000203943	-2.50	3.56E-05
<i>PFN2</i>	ENSG00000070087	-2.50	1.37E-08
<i>ADAMTSL2</i>	ENSG00000197859	-2.50	7.92E-03
<i>LINC00638</i>	ENSG00000258701	-2.50	4.00E-02
<i>PIWIL2</i>	ENSG00000197181	-2.51	6.07E-05
<i>OLFM1</i>	ENSG00000130558	-2.51	4.33E-04
<i>INA</i>	ENSG00000148798	-2.51	5.00E-02

<i>KCNJ6</i>	ENSG00000157542	-2.51	4.00E-02
<i>MYCL</i>	ENSG00000116990	-2.52	3.59E-05
<i>LHFPL4</i>	ENSG00000156959	-2.52	4.00E-02
<i>ARHGAP20</i>	ENSG00000137727	-2.52	9.32E-05
<i>HTR7</i>	ENSG00000148680	-2.53	2.00E-02
<i>SERPINA4</i>	ENSG00000100665	-2.53	6.77E-03
<i>AC097468.1</i>	ENSG00000224090	-2.54	2.00E-02
<i>AC010998.3</i>	ENSG00000278484	-2.54	5.00E-02
<i>OGN</i>	ENSG00000106809	-2.55	8.09E-03
<i>RAB26</i>	ENSG00000167964	-2.55	3.54E-04
<i>LIMS3</i>	ENSG00000256977	-2.56	3.00E-02
<i>NPM2</i>	ENSG00000158806	-2.56	2.00E-02
<i>ENHO</i>	ENSG00000168913	-2.56	4.95E-03
<i>FAM181B</i>	ENSG00000182103	-2.56	3.00E-02
<i>SCN8A</i>	ENSG00000196876	-2.58	9.79E-05
<i>MEGF6</i>	ENSG00000162591	-2.59	2.40E-04
<i>ISL1</i>	ENSG00000016082	-2.59	7.72E-05
<i>RGN</i>	ENSG00000130988	-2.59	2.00E-02
<i>CACNA2D1</i>	ENSG00000153956	-2.60	9.26E-10
<i>RAP1GAP</i>	ENSG00000076864	-2.61	6.00E-03
<i>KIF1A</i>	ENSG00000130294	-2.61	6.10E-03
<i>CPE</i>	ENSG00000109472	-2.61	7.72E-05
<i>COLEC12</i>	ENSG00000158270	-2.61	3.56E-05
<i>CD8B</i>	ENSG00000172116	-2.62	8.66E-03
<i>FGF14</i>	ENSG00000102466	-2.62	2.67E-03
<i>TPH1</i>	ENSG00000129167	-2.63	3.93E-03
<i>ZSCAN4</i>	ENSG00000180532	-2.63	2.00E-02
<i>CXorf57</i>	ENSG00000147231	-2.63	3.95E-06
<i>PCSK1</i>	ENSG00000175426	-2.64	5.05E-04
<i>VEGFB</i>	ENSG00000173511	-2.64	3.58E-04
<i>SSPN</i>	ENSG00000123096	-2.64	7.62E-06
<i>AMIGO2</i>	ENSG00000139211	-2.65	4.04E-03
<i>ZNF610</i>	ENSG00000167554	-2.65	4.21E-04
<i>DPP6</i>	ENSG00000130226	-2.66	2.00E-02
<i>ASAH2</i>	ENSG00000188611	-2.66	2.41E-03
<i>MFAP5</i>	ENSG00000197614	-2.66	2.38E-03
<i>ABCA8</i>	ENSG00000141338	-2.66	2.21E-03
<i>SVOP</i>	ENSG00000166111	-2.67	2.00E-02
<i>PMP2</i>	ENSG00000147588	-2.69	3.00E-02
<i>GNLY</i>	ENSG00000115523	-2.70	2.00E-02
<i>CLSTN2</i>	ENSG00000158258	-2.70	1.31E-04
<i>CDO1</i>	ENSG00000129596	-2.70	2.00E-02
<i>RPS6KA6</i>	ENSG00000072133	-2.70	1.13E-06
<i>TPCN2</i>	ENSG00000162341	-2.71	1.00E-02

<i>PPM1E</i>	ENSG00000175175	-2.72	5.00E-02
<i>CA11</i>	ENSG00000063180	-2.72	2.85E-03
<i>VWA5B2</i>	ENSG00000145198	-2.73	9.44E-03
<i>LHFPL3</i>	ENSG00000187416	-2.73	5.00E-02
<i>FXYD1</i>	ENSG00000266964	-2.74	5.00E-02
<i>NKX3-2</i>	ENSG00000109705	-2.75	4.00E-02
<i>NPY1R</i>	ENSG00000164128	-2.75	2.81E-03
<i>GRIP2</i>	ENSG00000144596	-2.76	2.81E-05
<i>AC011503.2</i>	ENSG00000269397	-2.76	6.45E-03
<i>RYR1</i>	ENSG00000196218	-2.76	2.35E-03
<i>C22orf42</i>	ENSG00000205856	-2.76	4.00E-02
<i>UST</i>	ENSG00000111962	-2.77	9.38E-05
<i>GATM</i>	ENSG00000171766	-2.77	5.05E-11
<i>UBE2QL1</i>	ENSG00000215218	-2.78	2.00E-02
<i>NOLA</i>	ENSG00000101746	-2.78	2.00E-02
<i>CXXC4</i>	ENSG00000168772	-2.79	6.98E-04
<i>ROBO3</i>	ENSG00000154134	-2.79	7.68E-03
<i>SLC1A7</i>	ENSG00000162383	-2.80	2.00E-02
<i>VANGL2</i>	ENSG00000162738	-2.80	8.32E-04
<i>CASR</i>	ENSG00000036828	-2.80	2.00E-02
<i>RFX6</i>	ENSG00000185002	-2.80	1.00E-02
<i>LINC00958</i>	ENSG00000251381	-2.80	3.92E-03
<i>MAPK8IP2</i>	ENSG00000008735	-2.80	1.00E-02
<i>NYAP1</i>	ENSG00000166924	-2.81	2.00E-02
<i>CHRM4</i>	ENSG00000180720	-2.81	5.00E-02
<i>ZNF185</i>	ENSG00000147394	-2.81	1.40E-06
<i>MGAM</i>	ENSG00000257335	-2.82	2.00E-03
<i>CHGA</i>	ENSG00000100604	-2.82	2.58E-04
<i>KNDC1</i>	ENSG00000171798	-2.83	2.00E-02
<i>CD3G</i>	ENSG00000160654	-2.84	3.38E-06
<i>ASCL1</i>	ENSG00000139352	-2.85	5.02E-03
<i>LRAT</i>	ENSG00000121207	-2.86	1.00E-02
<i>GSTA2</i>	ENSG00000244067	-2.86	2.00E-02
<i>EPHB6</i>	ENSG00000106123	-2.86	3.26E-03
<i>PCDH9</i>	ENSG00000184226	-2.86	9.25E-03
<i>GCK</i>	ENSG00000106633	-2.87	4.00E-02
<i>NACAD</i>	ENSG00000136274	-2.87	3.02E-03
<i>SCGB2A1</i>	ENSG00000124939	-2.87	4.07E-05
<i>DBP</i>	ENSG00000105516	-2.87	4.66E-05
<i>MPP2</i>	ENSG00000108852	-2.88	3.12E-04
<i>GNG4</i>	ENSG00000168243	-2.89	3.69E-03
<i>AGAP11</i>	ENSG00000271880	-2.89	2.00E-02
<i>MAST1</i>	ENSG00000105613	-2.89	4.00E-02
<i>PHLDA3</i>	ENSG00000174307	-2.90	1.05E-03

<i>FAM19A4</i>	ENSG00000163377	-2.91	4.00E-02
<i>IYD</i>	ENSG00000009765	-2.91	4.08E-06
<i>CPNE6</i>	ENSG00000100884	-2.91	3.00E-02
<i>UGT2B7</i>	ENSG00000171234	-2.92	2.00E-02
<i>CA4</i>	ENSG00000167434	-2.92	2.00E-02
<i>PLCH2</i>	ENSG00000149527	-2.93	9.10E-04
<i>RGS4</i>	ENSG00000117152	-2.93	1.29E-04
<i>DRAIC</i>	ENSG00000245750	-2.93	1.00E-02
<i>KIF5C</i>	ENSG00000168280	-2.94	6.35E-05
<i>KCNJ3</i>	ENSG00000162989	-2.94	3.27E-03
<i>DPP10</i>	ENSG00000175497	-2.95	7.75E-03
<i>PCSK2</i>	ENSG00000125851	-2.95	4.42E-03
<i>EEF1A2</i>	ENSG00000101210	-2.95	4.00E-03
<i>PNMA6A</i>	ENSG00000235961	-2.95	3.00E-02
<i>GUCA2B</i>	ENSG00000044012	-2.96	2.00E-02
<i>KCNMB2</i>	ENSG00000197584	-2.96	9.98E-05
<i>RMST</i>	ENSG00000255794	-2.96	1.00E-08
<i>KL</i>	ENSG00000133116	-2.96	1.63E-04
<i>NDNF</i>	ENSG00000173376	-2.97	4.70E-04
<i>REEP2</i>	ENSG00000132563	-2.97	9.00E-03
<i>PAX6</i>	ENSG00000007372	-2.97	3.00E-02
<i>DUSP26</i>	ENSG00000133878	-2.98	1.07E-03
<i>NELL2</i>	ENSG00000184613	-2.98	1.00E-02
<i>AJAP1</i>	ENSG00000196581	-2.99	3.35E-03
<i>CNTN1</i>	ENSG00000018236	-2.99	5.00E-02
<i>SLC39A5</i>	ENSG00000139540	-2.99	3.00E-02
<i>LTBP4</i>	ENSG00000090006	-2.99	2.13E-08
<i>SNAP91</i>	ENSG00000065609	-3.00	1.00E-02
<i>DCX</i>	ENSG00000077279	-3.00	6.77E-03
<i>TRPV6</i>	ENSG00000165125	-3.01	2.07E-03
<i>DSCAML1</i>	ENSG00000177103	-3.01	3.53E-03
<i>HMGCLL1</i>	ENSG00000146151	-3.02	2.62E-03
<i>UNC5B-AS1</i>	ENSG00000237512	-3.02	3.85E-03
<i>KLRC4-KLRK1</i>	ENSG00000255819	-3.02	1.00E-02
<i>KLK11</i>	ENSG00000167757	-3.02	2.71E-03
<i>CHGB</i>	ENSG00000089199	-3.02	4.00E-02
<i>F10</i>	ENSG00000126218	-3.03	2.46E-04
<i>GSG1L</i>	ENSG00000169181	-3.03	3.00E-02
<i>FOXJ1</i>	ENSG00000129654	-3.03	2.62E-03
<i>TTR</i>	ENSG00000118271	-3.03	1.00E-02
<i>TFPI2</i>	ENSG00000105825	-3.05	3.00E-02
<i>SYN2</i>	ENSG00000157152	-3.06	4.00E-02
<i>LRRC3B</i>	ENSG00000179796	-3.06	5.00E-02
<i>ADGRB1</i>	ENSG00000181790	-3.06	2.04E-03

<i>APOH</i>	ENSG00000091583	-3.06	3.00E-02
<i>FNDC1</i>	ENSG00000164694	-3.07	3.00E-02
<i>AC008808.2</i>	ENSG00000250360	-3.10	3.00E-02
<i>IGFBP3</i>	ENSG00000146674	-3.11	1.33E-10
<i>PID1</i>	ENSG00000153823	-3.12	4.28E-08
<i>EDARADD</i>	ENSG00000186197	-3.14	9.31E-06
<i>SLC2A12</i>	ENSG00000146411	-3.14	2.00E-02
<i>CADM3</i>	ENSG00000162706	-3.15	1.83E-03
<i>SYT14</i>	ENSG00000143469	-3.16	4.00E-03
<i>AC130371.2</i>	ENSG00000274370	-3.16	1.00E-02
<i>SLC26A9</i>	ENSG00000174502	-3.19	1.27E-05
<i>LINC01189</i>	ENSG00000232827	-3.20	5.00E-02
<i>TMEM151A</i>	ENSG00000179292	-3.20	2.00E-02
<i>MYOZ3</i>	ENSG00000164591	-3.22	2.24E-03
<i>AC005520.2</i>	ENSG00000259065	-3.22	2.00E-02
<i>CPS1</i>	ENSG00000021826	-3.23	3.00E-02
<i>PROX1-AS1</i>	ENSG00000230461	-3.24	5.00E-02
<i>AC090092.1</i>	ENSG00000255418	-3.24	2.00E-02
<i>RIIAD1</i>	ENSG00000178796	-3.25	5.00E-02
<i>SSTR2</i>	ENSG00000180616	-3.27	4.87E-04
<i>AC092652.2</i>	ENSG00000257277	-3.28	4.00E-02
<i>AC021016.3</i>	ENSG00000273361	-3.28	9.18E-04
<i>LGII</i>	ENSG00000108231	-3.28	3.00E-02
<i>TMEM229A</i>	ENSG00000234224	-3.30	6.14E-03
<i>ATP13A5</i>	ENSG00000187527	-3.32	8.47E-03
<i>AC129507.2</i>	ENSG00000262294	-3.32	3.00E-02
<i>ACSM6</i>	ENSG00000173124	-3.33	2.00E-02
<i>KCNK3</i>	ENSG00000171303	-3.34	3.04E-04
<i>PTH1R</i>	ENSG00000160801	-3.34	1.00E-02
<i>AC093627.7</i>	ENSG00000261795	-3.34	4.00E-02
<i>VSTM2L</i>	ENSG00000132821	-3.34	8.16E-04
<i>GALNT13</i>	ENSG00000144278	-3.35	3.29E-03
<i>AQP10</i>	ENSG00000143595	-3.37	4.00E-02
<i>MFSD4A</i>	ENSG00000174514	-3.37	2.01E-03
<i>BMPR1B</i>	ENSG00000138696	-3.37	4.00E-02
<i>LMX1B</i>	ENSG00000136944	-3.37	4.00E-02
<i>NKX2-2</i>	ENSG00000125820	-3.37	9.36E-03
<i>PCDH19</i>	ENSG00000165194	-3.37	1.59E-04
<i>MAPK4</i>	ENSG00000141639	-3.39	6.49E-03
<i>RBP4</i>	ENSG00000138207	-3.41	3.38E-03
<i>CELF5</i>	ENSG00000161082	-3.43	8.40E-03
<i>BEX1</i>	ENSG00000133169	-3.43	3.27E-04
<i>AL606970.1</i>	ENSG00000224417	-3.44	4.00E-02
<i>PIRT</i>	ENSG00000233670	-3.44	1.80E-04

<i>DHRS2</i>	ENSG00000100867	-3.45	6.79E-03
<i>CYS1</i>	ENSG00000205795	-3.46	3.31E-04
<i>SCG3</i>	ENSG00000104112	-3.46	2.80E-05
<i>CLIC6</i>	ENSG00000159212	-3.46	6.16E-03
<i>GPR119</i>	ENSG00000147262	-3.47	5.00E-02
<i>PTGER3</i>	ENSG00000050628	-3.48	5.00E-02
<i>SFRP5</i>	ENSG00000120057	-3.49	2.75E-03
<i>SLC7A9</i>	ENSG00000021488	-3.49	4.00E-02
<i>AK5</i>	ENSG00000154027	-3.51	6.85E-06
<i>CSMD3</i>	ENSG00000164796	-3.51	2.62E-03
<i>NECAB2</i>	ENSG00000103154	-3.51	2.88E-03
<i>AL161658.1</i>	ENSG00000280229	-3.51	2.00E-02
<i>HLF</i>	ENSG00000108924	-3.53	1.21E-05
<i>SPOCK3</i>	ENSG00000196104	-3.55	5.00E-02
<i>SEMA3D</i>	ENSG00000153993	-3.55	8.99E-06
<i>ADAMTS13</i>	ENSG00000160323	-3.57	1.56E-07
<i>ELAVL4</i>	ENSG00000162374	-3.58	4.61E-04
<i>ERO1B</i>	ENSG00000086619	-3.58	1.16E-10
<i>MIR7-3HG</i>	ENSG00000176840	-3.58	6.77E-03
<i>AATK</i>	ENSG00000181409	-3.59	2.71E-05
<i>SIGLEC11</i>	ENSG00000161640	-3.59	5.00E-02
<i>FAM163A</i>	ENSG00000143340	-3.60	2.00E-02
<i>SLC6A4</i>	ENSG00000108576	-3.60	4.01E-04
<i>GRIA2</i>	ENSG00000120251	-3.61	2.10E-04
<i>NRIP3</i>	ENSG00000175352	-3.61	1.00E-02
<i>AC023794.5</i>	ENSG00000260470	-3.61	2.07E-03
<i>LINC02446</i>	ENSG00000256039	-3.64	4.00E-03
<i>MYO18B</i>	ENSG00000133454	-3.64	3.00E-02
<i>NUDT10</i>	ENSG00000122824	-3.64	4.00E-02
<i>DIRAS3</i>	ENSG00000162595	-3.66	9.86E-04
<i>AC093642.2</i>	ENSG00000280119	-3.66	3.23E-03
<i>FGF9</i>	ENSG00000102678	-3.66	3.49E-05
<i>ARX</i>	ENSG00000004848	-3.66	3.79E-04
<i>GRIA1</i>	ENSG00000155511	-3.67	7.04E-03
<i>CPLX2</i>	ENSG00000145920	-3.67	1.66E-04
<i>SYT7</i>	ENSG00000011347	-3.68	2.28E-05
<i>INSM1</i>	ENSG00000173404	-3.68	5.69E-04
<i>PCSK1N</i>	ENSG00000102109	-3.68	4.71E-04
<i>MARCH4</i>	ENSG00000144583	-3.69	2.44E-03
<i>SNAP25</i>	ENSG00000132639	-3.69	4.84E-05
<i>KCTD16</i>	ENSG00000183775	-3.70	3.00E-02
<i>SCG5</i>	ENSG00000166922	-3.70	3.64E-04
<i>CES1</i>	ENSG00000198848	-3.70	1.75E-04
<i>CFAP65</i>	ENSG00000181378	-3.72	1.73E-03



<i>RNF157-AS1</i>	ENSG00000267128	-3.73	2.00E-02
<i>PLCXD3</i>	ENSG00000182836	-3.74	3.80E-06
<i>VSTM2A-OT1</i>	ENSG00000224223	-3.74	5.98E-03
<i>IL33</i>	ENSG00000137033	-3.75	7.45E-13
<i>AC006030.1</i>	ENSG00000264324	-3.77	4.00E-02
<i>AC105277.1</i>	ENSG00000232453	-3.79	4.78E-05
<i>TMEM27</i>	ENSG00000147003	-3.80	9.81E-06
<i>TMEM190</i>	ENSG00000160472	-3.81	4.00E-02
<i>PRPH</i>	ENSG00000135406	-3.82	8.57E-04
<i>NDST4</i>	ENSG00000138653	-3.83	2.07E-05
<i>AC116407.1</i>	ENSG00000214708	-3.83	3.00E-02
<i>WSCD2</i>	ENSG00000075035	-3.88	1.18E-06
<i>ALDOB</i>	ENSG00000136872	-3.89	9.87E-03
<i>FGF20</i>	ENSG00000078579	-3.90	2.00E-02
<i>CX3CR1</i>	ENSG00000168329	-3.92	8.16E-04
<i>RALYL</i>	ENSG00000184672	-3.94	9.09E-03
<i>TDRD1</i>	ENSG00000095627	-3.95	7.68E-03
<i>APLP1</i>	ENSG00000105290	-3.95	6.71E-03
<i>GREM2</i>	ENSG00000180875	-3.96	7.75E-05
<i>RGS7</i>	ENSG00000182901	-3.96	1.31E-04
<i>SLC6A19</i>	ENSG00000174358	-3.96	1.09E-03
<i>FFAR1</i>	ENSG00000126266	-3.96	3.53E-03
<i>DIO3OS</i>	ENSG00000258498	-3.97	1.00E-02
<i>SYT4</i>	ENSG00000132872	-3.99	2.32E-05
<i>AC123912.1</i>	ENSG00000268081	-3.99	3.00E-02
<i>AL032819.2</i>	ENSG00000279930	-4.01	1.00E-02
<i>PRSS35</i>	ENSG00000146250	-4.05	3.89E-03
<i>MYOZ1</i>	ENSG00000177791	-4.07	4.00E-02
<i>PRLHR</i>	ENSG00000119973	-4.07	1.53E-03
<i>CLEC9A</i>	ENSG00000197992	-4.09	1.00E-02
<i>CARTPT</i>	ENSG00000164326	-4.11	1.04E-03
<i>PCDHB1</i>	ENSG00000171815	-4.15	9.78E-03
<i>CADM2</i>	ENSG00000175161	-4.16	2.30E-03
<i>NSG2</i>	ENSG00000170091	-4.20	1.16E-04
<i>FLG2</i>	ENSG00000143520	-4.23	9.32E-06
<i>KRT40</i>	ENSG00000204889	-4.29	2.41E-03
<i>MRO</i>	ENSG00000134042	-4.29	1.72E-08
<i>TAGLN3</i>	ENSG00000144834	-4.35	4.61E-04
<i>DIRAS2</i>	ENSG00000165023	-4.38	6.30E-05
<i>AL032819.3</i>	ENSG00000284395	-4.42	8.52E-03
<i>C8orf48</i>	ENSG00000164743	-4.43	2.10E-06
<i>C1orf127</i>	ENSG00000175262	-4.44	2.32E-04
<i>CALY</i>	ENSG00000130643	-4.45	7.00E-05
<i>NKX6-1</i>	ENSG00000163623	-4.47	1.46E-03

<i>FAM159B</i>	ENSG00000145642	-4.47	3.16E-03
<i>NRAP</i>	ENSG00000197893	-4.48	8.07E-05
<i>PTPRN</i>	ENSG00000054356	-4.49	5.16E-07
<i>PCDHB8</i>	ENSG00000120322	-4.49	2.00E-02
<i>SLC34A2</i>	ENSG00000157765	-4.51	6.42E-04
<i>SLC26A7</i>	ENSG00000147606	-4.53	7.63E-08
<i>SCGN</i>	ENSG00000079689	-4.54	1.61E-06
<i>VTN</i>	ENSG00000109072	-4.55	3.60E-05
<i>SRPX</i>	ENSG00000101955	-4.56	1.85E-08
<i>HCN1</i>	ENSG00000164588	-4.57	6.55E-03
<i>TMEM132B</i>	ENSG00000139364	-4.59	1.02E-07
<i>PIFO</i>	ENSG00000173947	-4.65	2.00E-02
<i>LINC01933</i>	ENSG00000254226	-4.66	9.05E-04
<i>C2orf40</i>	ENSG00000119147	-4.67	1.38E-03
<i>AC008736.1</i>	ENSG00000267475	-4.67	3.00E-02
<i>CDH2</i>	ENSG00000170558	-4.72	3.00E-02
<i>TMEM196</i>	ENSG00000173452	-4.74	1.88E-04
<i>AC091551.1</i>	ENSG00000267699	-4.78	3.85E-03
<i>VSTM2A</i>	ENSG00000170419	-4.79	3.21E-08
<i>TMEM132C</i>	ENSG00000181234	-4.80	2.58E-04
<i>NEUROG3</i>	ENSG00000122859	-4.81	2.00E-02
<i>AC069228.1</i>	ENSG00000258162	-4.81	2.00E-02
<i>FABP3</i>	ENSG00000121769	-4.86	3.91E-03
<i>KCNK16</i>	ENSG00000095981	-4.94	5.41E-05
<i>MT1G</i>	ENSG00000125144	-4.94	2.94E-03
<i>AC020656.1</i>	ENSG00000257764	-5.00	2.00E-02
<i>GABRG2</i>	ENSG00000113327	-5.03	1.66E-04
<i>PCP4L1</i>	ENSG00000248485	-5.07	1.00E-02
<i>AC104985.1</i>	ENSG00000267746	-5.09	4.00E-02
<i>UCN3</i>	ENSG00000178473	-5.14	6.72E-05
<i>OLFM3</i>	ENSG00000118733	-5.16	2.00E-02
<i>NEUROD1</i>	ENSG00000162992	-5.17	6.09E-06
<i>OTOP3</i>	ENSG00000182938	-5.18	8.38E-04
<i>SLC17A8</i>	ENSG00000179520	-5.25	3.76E-03
<i>AGMO</i>	ENSG00000187546	-5.32	5.20E-03
<i>MUC15</i>	ENSG00000169550	-5.33	1.00E-02
<i>LRFN2</i>	ENSG00000156564	-5.40	2.00E-02
<i>RIPPLY2</i>	ENSG00000203877	-5.40	1.00E-02
<i>CARNS1</i>	ENSG00000172508	-5.41	3.21E-07
<i>C10orf67</i>	ENSG00000179133	-5.42	1.00E-02
<i>LINC01902</i>	ENSG00000283503	-5.45	3.36E-03
<i>RIMS4</i>	ENSG00000101098	-5.46	2.94E-03
<i>LINC01594</i>	ENSG00000225328	-5.51	4.73E-03
<i>HTR1F</i>	ENSG00000179097	-5.51	3.16E-03

<i>TF</i>	ENSG00000091513	-5.52	7.92E-03
<i>NTRK3</i>	ENSG00000140538	-5.53	3.63E-06
<i>MT1H</i>	ENSG00000205358	-5.55	3.00E-02
<i>KLHL1</i>	ENSG00000150361	-5.57	3.41E-05
<i>GS1-594A7.3</i>	ENSG00000225833	-5.62	2.00E-02
<i>SLITRK5</i>	ENSG00000165300	-5.67	4.76E-08
<i>KLHDC8A</i>	ENSG00000162873	-5.72	2.30E-03
<i>OTC</i>	ENSG00000036473	-5.76	1.35E-04
<i>TACR3</i>	ENSG00000169836	-5.79	1.00E-02
<i>TRIM63</i>	ENSG00000158022	-5.80	3.00E-02
<i>CYP3A4</i>	ENSG00000160868	-5.80	5.00E-02
<i>SH3GL2</i>	ENSG00000107295	-5.82	3.02E-04
<i>TM4SF4</i>	ENSG00000169903	-5.87	2.64E-07
<i>RMST_9</i>	ENSG00000276398	-5.87	1.29E-04
<i>AL137793.1</i>	ENSG00000236975	-5.92	3.00E-02
<i>MEP1B</i>	ENSG00000141434	-5.92	2.00E-02
<i>AC008268.1</i>	ENSG00000235584	-5.93	2.00E-02
<i>IGFALS</i>	ENSG00000099769	-5.95	7.00E-05
<i>NMUR2</i>	ENSG00000132911	-6.08	5.13E-06
<i>GABRA1</i>	ENSG00000022355	-6.27	2.31E-06
<i>LY6H</i>	ENSG00000176956	-6.33	7.93E-09
<i>DEFB1</i>	ENSG00000164825	-6.41	1.72E-06
<i>FRMPD4</i>	ENSG00000169933	-6.42	3.00E-02
<i>NPW</i>	ENSG00000183971	-6.50	1.33E-05
<i>AP003071.5</i>	ENSG00000284713	-6.57	1.32E-03
<i>SST</i>	ENSG00000157005	-6.60	2.67E-07
<i>LINC01370</i>	ENSG00000237767	-6.66	3.90E-03
<i>ELFN1-AS1</i>	ENSG00000236081	-6.79	4.00E-02
<i>TAC1</i>	ENSG00000006128	-6.81	5.00E-05
<i>HOXC5</i>	ENSG00000172789	-6.99	7.78E-03
<i>ATP4A</i>	ENSG00000105675	-7.16	2.00E-02
<i>SLITRK3</i>	ENSG00000121871	-7.54	5.00E-02
<i>RBP2</i>	ENSG00000114113	-7.56	3.00E-02
<i>ZNF492</i>	ENSG00000229676	-7.59	5.06E-06
<i>C5orf17</i>	ENSG00000248874	-7.68	3.18E-03
<i>CHST9</i>	ENSG00000154080	-7.68	2.11E-06
<i>MTP</i>	ENSG00000138823	-7.78	9.65E-04
<i>AC005944.1</i>	ENSG00000267469	-7.88	3.00E-02
<i>GLDN</i>	ENSG00000186417	-7.93	1.53E-09
<i>LCT</i>	ENSG00000115850	-8.04	2.65E-03
<i>AF131216.3</i>	ENSG00000255020	-8.07	5.00E-02
<i>APOB</i>	ENSG00000084674	-8.31	2.00E-02
<i>F11</i>	ENSG00000088926	-8.59	2.00E-02
<i>NTS</i>	ENSG00000133636	-8.59	1.34E-03

<i>MDGA2</i>	ENSG00000139915	-8.77	1.18E-06
<i>MRPL23-AS1</i>	ENSG00000226416	-9.09	5.67E-03
<i>IGHD</i>	ENSG00000211898	-9.11	1.54E-04
<i>AC093772.1</i>	ENSG00000248491	-9.19	3.28E-03
<i>APOC3</i>	ENSG00000110245	-9.21	3.00E-02
<i>MS4A10</i>	ENSG00000172689	-9.28	5.00E-02
<i>MATR3_2</i>	ENSG00000015479	-9.49	4.00E-02
<i>FSTL5</i>	ENSG00000168843	-9.56	2.00E-02
<i>BMP3</i>	ENSG00000152785	-9.80	9.83E-09
<i>MUM1L1</i>	ENSG00000157502	-10.37	2.22E-12
<i>TMPRSS15</i>	ENSG00000154646	-10.46	4.00E-02
<i>SLC5A7</i>	ENSG00000115665	-10.47	5.86E-11
<i>AC126544.2</i>	ENSG00000280022	-10.63	4.48E-03
<i>NPY</i>	ENSG00000122585	-10.91	7.85E-05
<i>ALPI</i>	ENSG00000163295	-11.12	2.00E-02
<i>FGG</i>	ENSG00000171557	-11.13	2.00E-02
<i>NECAB1</i>	ENSG00000123119	-11.35	1.00E-15
<i>CNTFR</i>	ENSG00000122756	-11.57	2.59E-07
<i>CYP4F22</i>	ENSG00000171954	-11.66	1.17E-06
<i>DDIT4-AS1</i>	ENSG00000269926	-11.82	2.00E-02
<i>SULT1E1</i>	ENSG00000109193	-12.06	1.17E-03
<i>ALB</i>	ENSG00000163631	-12.25	1.59E-04
<i>GSTA3</i>	ENSG00000174156	-12.57	4.17E-04
<i>AL512638.2</i>	ENSG00000228035	-13.39	5.00E-02
<i>APOA4</i>	ENSG00000110244	-13.53	3.00E-02
<i>COL2A1</i>	ENSG00000139219	-13.59	4.66E-05
<i>S100G</i>	ENSG00000169906	-13.74	1.00E-02
<i>APOA1</i>	ENSG00000118137	-14.50	5.20E-04
<i>CYP1A1</i>	ENSG00000140465	-14.54	2.45E-03
<i>SULT2A1</i>	ENSG00000105398	-15.58	1.10E-05
<i>UGT2A3</i>	ENSG00000135220	-24.63	1.00E-15
<i>MCHR2</i>	ENSG00000152034	-30.37	8.32E-04
<i>TBC1D3K</i>	ENSG00000273513	-31.73	5.00E-02
<i>AC073174.1</i>	ENSG00000227121	-34.74	3.00E-02
<i>TBC1D3G</i>	ENSG00000260287	-40.92	3.00E-02
<i>AC087190.4</i>	ENSG00000263244	-45.72	3.00E-02
<i>AC009133.6</i>	ENSG00000280893	-47.30	1.00E-02
<i>PGA5</i>	ENSG00000256713	-51.71	7.66E-05
<i>SFT2D3</i>	ENSG00000173349	-54.98	1.00E-02
<i>CHIA</i>	ENSG00000134216	-389.59	7.55E-11

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**Consortium of Eosinophilic Gastrointestinal Disease Researchers (CEGIR) questionnaires**

- Registry for Eosinophilic Gastrointestinal Diseases (REGID) Provider Questionnaire
- CEGIR Outcomes Measures in Eosinophilic Gastrointestinal disorders Across the ages (OMEGA) Patient Intake Questionnaire



Initials:

Subject ID:

v0.11 09/26/2012

**Office Use Only**

Visit Date:  /  /   
 Month Day Year

Visit Type:  Initial Visit  Follow-Up Clinic  Follow-Up Endoscopy  Chart Review Only

**Eosinophilic Gastrointestinal Disorder (EGID) Diagnosis**

If the patient has been given an EGID diagnosis, please answer the questions below.

Diagnosis	Diagnosed?	Age diagnosed	Treatment (choose all that apply)
<b>Eosinophilic Esophagitis (EoE)</b> Patient treated for 8 or more weeks with a proton pump inhibitor (any dose) before diagnosed with EoE? $\geq 15$ <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure If Yes, indicate the name of PPI and the dosage. Name: _____ Dosage: _____ Patient treated for 8 or more weeks with <u>high dose</u> * proton pump inhibitor before diagnosed with EoE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure <small>* 20-40 mg daily in adults (depends on patient and chosen PPI) and 1 mg/kg twice daily (for maximal dosing use in children)</small> Normal pH or impedance probe test before diagnosed with EoE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="text"/> <input type="text"/> <input type="checkbox"/> Months <input type="checkbox"/> Years	<input type="checkbox"/> Swallowed Topical Steroids <input type="checkbox"/> Oral Systemic Steroids <input type="checkbox"/> Elimination Diet <input type="checkbox"/> Empiric Elimination Diet <input type="checkbox"/> Elemental Diet <input type="checkbox"/> Other _____
<b>Eosinophilic Gastritis</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="text"/> <input type="text"/> <input type="checkbox"/> Months <input type="checkbox"/> Years	<input type="checkbox"/> Swallowed Topical Steroids <input type="checkbox"/> Oral Systemic Steroids <input type="checkbox"/> Elimination Diet <input type="checkbox"/> Empiric Elimination Diet <input type="checkbox"/> Elemental Diet <input type="checkbox"/> Other _____
<b>Eosinophilic Colitis</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="text"/> <input type="text"/> <input type="checkbox"/> Months <input type="checkbox"/> Years	<input type="checkbox"/> Swallowed Topical Steroids <input type="checkbox"/> Oral Systemic Steroids <input type="checkbox"/> 5-ASA <input type="checkbox"/> Elimination Diet <input type="checkbox"/> Empiric Elimination Diet <input type="checkbox"/> Elemental Diet <input type="checkbox"/> Other _____



Initials:   
 Subject ID:

EoE diagnosis by a physician:

Age at Diagnosis:  years  months  
 Age at First Endoscopy:  years  months  
 Age at First Symptoms:  years  months

Please indicate which therapy(ies) has been used to treat the patient's EGID. Also indicate which therapy(ies) has been effective based on symptoms and / or pathology.

None. No therapy has been used to treat the patient's EGID.

If None, please skip to the next section.

	Used			Effective for Sx			Effective for Path		
	Yes	No	Not sure	Yes	No	Not sure	Yes	No	Not sure
Swallowed topical steroids (i.e. fluticasone, budesonide)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral systemic steroids (i.e. Prednisone®)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elimination Diet (removing food(s) the patient is allergic to)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Empiric Elimination Diet (avoiding food(s) that the doctor has recommended to avoid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elemental Diet (taking elemental formula and up to one food)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swallowed topical steroids AND Diet elimination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Esophageal Dilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anti-IL5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anti-IL13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leukotriene Modifier (e.g. Monteleukast)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-ASA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Physician Global Assessment**

If you consider the patient's most recent clinical status, how active is the EoE?

Quiescent       Mild       Moderate       Severe

If you consider the patient's histologic status, how active is the EoE?

Quiescent       Mild       Moderate       Severe

If you consider the patient's overall status, how active is the EoE?

Quiescent       Mild       Moderate       Severe

Please rate the patient's change in height on the growth chart since their last visit.

No change       Up       Down

Please rate the patient's change in weight on the growth chart since their last visit.

No change       Up       Down

Height:  .  cm

Weight:  .  Kg



Initials: [ ]
Subject ID: [ ]
v0.11 09/26/2012

Surgical History

Has the patient had food impactions that required urgent endoscopic removal? [ ] Yes [ ] No [ ] Not sure

If Yes, how many times? [ ][ ]

If Yes, please specify the date for the last three (3) times this occurred.

[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]

Has the patient had dilation (stretching) of the esophagus? [ ] Yes [ ] No [ ] Not sure

If Yes, how many times? [ ][ ]

If Yes, please specify the date for the last three (3) times this occurred.

[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]

Has the patient had an esophageal perforation? [ ] Yes [ ] No [ ] Not sure

If Yes, how many times? [ ][ ]

If Yes, please specify the date for the last three (3) times this occurred.

[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]
[ ][ ] / [ ][ ] / [ ][ ][ ][ ]

Current Therapy(ies)

Which therapy(ies) is currently being used to treat the patient's EGID? (choose all that apply)

- [ ] Swallowed topical steroids (i.e. fluticasone, budesonide)
[ ] Oral systemic steroids (i.e. Prednisone®)
[ ] Proton pump inhibitor (i.e. esomeprazole, lansoprazole, pantoprazole, omeprazole)
[ ] Elimination Diet (removing food(s) the patient is allergic to)
[ ] Empiric Elimination Diet (avoiding food(s) that the doctor has recommended to avoid)
[ ] Elemental Diet (taking elemental formula and up to one food)
[ ] Esophageal Dilation
[ ] Anti-IL5
[ ] Anti-IL13
[ ] Leukotriene Modifier (e.g. Monteleukast)
[ ] 5-ASA
[ ] Other

If Other, please specify:







Initials:	<input type="text"/>
Subject ID:	<input type="text"/>

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**What is the patient's current diet for the EGID? (choose all that apply)**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> No Restrictions: Patient eats whatever s/he wants | <input type="checkbox"/> Elimination Diet: Patient avoids food (s) s/he is allergic to by allergy testing results | <input type="checkbox"/> Empiric Elimination Diet: Patient avoids food(s) that the doctor has recommended to avoid |
| <input type="checkbox"/> Elemental Formula (up to one food)                | <input type="checkbox"/> Elemental Formula and Food   | <input type="checkbox"/> Elemental Formula and Food Trial  |
| <input type="checkbox"/> Non-elemental Formula                             | <input type="checkbox"/> Non-elemental Formula and Food   | <input type="checkbox"/> TPN   |
| <input type="checkbox"/> Food Trial  | <input type="checkbox"/> Other  |  |

**If Other, please specify:** \_\_\_\_\_

Initials:	
Local Subject ID:	

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**Only** **Office Use**

Visit Date:   /   /      
 Month Day Year

Visit Type:  Initial Visit  Annual Follow Up

RDCRN Participant ID:

**Person Completing this Form**

What is your relationship to the patient?

Self  Parent  Legal Guardian  Other

If Other, please specify: \_\_\_\_\_

*Note that throughout this document, references to "patient" stand for the research participant. "Patient" refers to you if you are the research participant or your child / ward if s/he is the research participant and you are completing the form because s/he is under 18 years of age or otherwise unable to complete the form.*

Is the patient a product of a multiple birth (e.g. twin, triplet)?

Yes, Identical  Yes, Not Identical  No

Initials:

Local  
Subject ID:


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## Patient History

Please complete the following to inform us of the patient's past medical history.

No Change since last visit

Past Medical History (diagnosed by a physician)			
ALLERGY / IMMUNOLOGY	Yes	No	Not sure
<b>1. Allergic conjunctivitis</b> ( <i>itchy, watery eyes</i> ) or <b>Allergic rhinitis</b> ( <i>seasonal stuffy, runny nose or hayfever</i> ) <b>Triggers (Check all that apply):</b> <input type="checkbox"/> Grass <input type="checkbox"/> Mold <input type="checkbox"/> Trees <input type="checkbox"/> Weeds <input type="checkbox"/> Cockroach <input type="checkbox"/> Dust mites <input type="checkbox"/> Cat <input type="checkbox"/> Dog			
<b>2. Angioedema</b> ( <i>swelling of skin</i> )			
<b>3. Asthma</b> ( <i>breathing problem requiring the use of an inhaler / nebulizer at least once a year</i> ) <b>Please check any that apply for the previous 12 months:</b> <input type="checkbox"/> Emergency Department visit <input type="checkbox"/> Steroid course <input type="checkbox"/> Daily asthma medication <input type="checkbox"/> daytime Albuterol use more than 2x a week <input type="checkbox"/> nighttime Albuterol use more than 2x a month <b>Triggers (Check all that apply):</b> <input type="checkbox"/> Upper Respiratory Infection <input type="checkbox"/> Weather Changes <input type="checkbox"/> Pollen			
<b>4. Autoimmune disease</b> ( <i>Lupus, Diabetes Type I, Hashimoto's Thyroiditis, etc.</i> )			
<b>5. Drug anaphylaxis</b> ( <i>severe, sudden reaction to drug</i> )			
<b>6. Eczema</b> ( <i>chronic dry, itchy skin rash</i> )			
<b>7. Environmental allergies</b> ( <i>such as dust, pollen, grass, cats</i> )			
<b>8. Food allergy</b> ( <i>immediate rash, trouble breathing or feeling unwell after eating food; not limited to the esophagus</i> )			
<b>9. Hypereosinophilic syndrome</b> ( <i>excessive blood eosinophils &gt;= 6 months</i> )			
<b>10. Immunodeficiency</b> ( <i>known immune problem causing recurrent infections</i> )			
<b>11. Latex allergy</b> ( <i>emergent or prolonged reaction to latex such as rash, hives, or trouble breathing</i> )			
<b>12. Oral allergy syndrome</b> ( <i>burning, tingling sensation, or rash around mouth following eating food</i> )			
<b>13. Sinusitis</b> ( <i>infection of sinus with headache or pressure</i> )			
<b>14. Urticaria</b> ( <i>hives</i> )			
<b>15. Vocal cord dysfunction</b>			
GASTROINTESTINAL	Yes	No	Not sure
<b>16. Achalasia</b> ( <i>disease of the esophageal muscle</i> )			
<b>17. Barrett's esophagus</b> ( <i>disease with an abnormal change in the cells of the esophagus that is pre-cancerous</i> )			
<b>18. Celiac disease</b> ( <i>disease that damages the small intestine because of an immune reaction to gluten</i> )			
<b>19. Esophageal cancer</b>			
<b>20. Esophageal dilation</b> ( <i>dilate or stretch the esophagus</i> )			
<b>21. Esophageal perforation</b> ( <i>hole / tear in the esophagus either spontaneous or procedure related</i> )			
<b>22. Esophageal stricture</b> ( <i>narrowing / tightening of the esophagus on endoscopy or x-ray</i> )			

Initials:	
Local Subject ID:	

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23. Failure to thrive (poor growth in childhood, smaller than the 5th percentile on doctor's growth chart)			
25. Food getting stuck in chest or throat (impaction) - self-cleared (not requiring a doctor)			
26. Food getting stuck in chest or throat (impaction) - treated / removed by a physician			
27. GERD (heartburn / reflux)			
28. Inflammatory bowel disease (Crohns disease / Ulcerative colitis) (bowel disease <u>with</u> inflammation)			
29. Irritable Bowel Syndrome (bowel disorder characterized by abdominal pain and changes in bowel habits but <u>no</u> inflammation)			

Past Medical History (diagnosed by a physician) - Continued			
MISCELLANEOUS	Yes	No	Not sure
30. Anxiety			
31. Arthritis / Joint pain			
32. Autism			
33. Behavioral disorders (ADHD, OCD)			
34. Connective Tissue Disease (Marfan's syndrome, Ehlers-Danlos, Joint hypermobility)			
35. Depression			
36. Developmental delay			
37. Mitochondrial disorder			
38. Prematurity (less than 37 weeks)			

## Surgical History

Please specify whether the patient has had any of the the following surgical procedures (**Not including endoscopies**).

- None. The patient hasn't had any surgical procedures (except endoscopies).  No Change since last visit

 If None, please go to the next question.

Surgical History	Yes	No	Not sure
1. Adenoidectomy			
2. Sinus surgery			
3. Tonsillectomy			
4. Fundoplication (i.e. Nissen)			
5. Gastrostomy tube			
6. Tracheoesophageal fistula (TEF) repair			
7. Tracheostomy			
8. Appendectomy			
9. Bronchoscopy			
10. Hernia Repair			
11. Ear tubes			
12. Other: _____			

## Foods

Is the patient currently avoiding / not eating certain food(s)?

- The patient has no restrictions and eats whatever s/he wants.  
 The patient is currently not eating any food(s) (elemental diet or TPN only).  
 The patient is currently taking an elemental diet and some food(s).  
 The patient is currently avoiding certain food(s).

 If the patient is not currently avoiding certain food(s), please go to the next question.

Please specify which food(s) the patient is currently avoiding / not eating. (choose all that apply)

- |                                |                                    |                                       |                                     |                                  |
|--------------------------------|------------------------------------|---------------------------------------|-------------------------------------|----------------------------------|
| <input type="checkbox"/> Corn  | <input type="checkbox"/> Fish      | <input type="checkbox"/> Apple        | <input type="checkbox"/> Beef       | <input type="checkbox"/> Chicken |
| <input type="checkbox"/> Egg   | <input type="checkbox"/> Shellfish | <input type="checkbox"/> Avocado      | <input type="checkbox"/> Broccoli   | <input type="checkbox"/> Pea     |
| <input type="checkbox"/> Milk  |                                    | <input type="checkbox"/> Banana       | <input type="checkbox"/> Cantaloupe | <input type="checkbox"/> Pork    |
| <input type="checkbox"/> Soy   | <input type="checkbox"/> Peanut    | <input type="checkbox"/> Barley       | <input type="checkbox"/> Carrot     | <input type="checkbox"/> Rice    |
| <input type="checkbox"/> Wheat | <input type="checkbox"/> Tree nuts | <input type="checkbox"/> Bean, String | <input type="checkbox"/> Celery     | <input type="checkbox"/> Turkey  |
| <input type="checkbox"/> Other |                                    |                                       |                                     |                                  |

If Other, please specify: \_\_\_\_\_

### Food Related Problems

Please complete the following to inform us of the patient's food allergy reactions.

None. The patient does not have any known food allergy reactions.  No change since last visit

	Never tried	Rash	Difficulty breathing	Vomiting	Difficulty swallowing	Diarrhea	Abdominal pain	Low Blood Pressure	If Other, specify.	RAST (IU/mL)	Skin prick (w/f mm)	Patch (0-4)
Example		x					x	x	Muscle pain.	1.54	10 / 20	2
Milk											/	
Soy											/	
Egg											/	
Wheat											/	
Peanut											/	
Corn											/	
Shellfish											/	
Other fish											/	
Beef											/	
Tree nuts*											/	
Oat											/	
Barley											/	
Potato											/	
Peas											/	
Chicken											/	
Turkey											/	
Pork											/	
Rice											/	
Other:											/	
Other:											/	

\* Tree nuts (Almond, walnut, hazelnut, brazil nut, pecans)



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**Environmental Allergies**

Please complete the following to inform us of the patient's environmental allergy reactions.

None. The patient does not have any known environmental allergy reactions.  No change since last visit

<b>Example</b>	<b>1.54</b>	<b>10 / 20</b>
Tree		/
Grass		/
Ragweed		/
Cat		/
Dog		/
Dust mite		/
Weeds		/
Mold		/
Cockroach		/
Mice		/

**Environmental History**

What locale does the patient live in?

City  Suburbs  Country  Not sure  Other

If Other, please specify: \_\_\_\_\_

What type of structure does the patient live in?

House  Apartment  Not sure  Other

If Other, please specify: \_\_\_\_\_

Indicate where the is mold in the patient's home. (choose all that apply)

Basement  Bathroom  Windows  None  Note sure  Other

If Other, please specify: \_\_\_\_\_

Please indicate which pets are currently living in the patient's home. (choose all that apply)

Cats  Dogs  None  Not sure  Other

If Other, please specify: \_\_\_\_\_

What pests have been in the patient's home. (choose all that apply)

Cockroaches  Mice  Rats  None  Not Sure  Other

If Other, please specify: \_\_\_\_\_





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Does the patient have dust-proof allergy covers for the mattress and/or pillow?  Yes  No  Not sure

Does the patient have a prolonged history of smoking?  Yes  No  Not sure

Has the patient had prolonged exposure to smoke (family member, etc.)?  Yes  No  Not sure

**Family History**

Was the patient adopted?  Yes  No

Please indicate whether the patient was delivered by vaginal delivery or C-section.

Vaginal  C-section  Not sure

What was the age of the patient's mother at the time of birth? Years: \_\_\_\_\_  Not sure

What was the age of the patient's father at the time of birth? Years: \_\_\_\_\_  Not sure

What was the patient's birth weight?

Pounds: \_\_\_\_\_ Ounces: \_\_\_\_\_  Not sure

What was the patient's birth length?

Inches: \_\_\_\_\_  Not sure

Was the patient born more than 3 weeks before his/her due date? Yes  No  Not sure

At what week of gestation was he/she born?

37 or more weeks  32-36 weeks  
 Less than 32 weeks  Don't know

Did the patient take any antibiotics when he/she was a baby, less than one year of age?

Yes  No  Not sure

If Yes, what happened? \_\_\_\_\_

Were there any emergency room visits during the first 3 months of life?

Yes  No  Not sure

If Yes, what happened? \_\_\_\_\_

Did the patient spend any time in the neonatal intensive care unit (NICU) after he/she was born?

Yes  No  Not Sure

Were there any hospitalizations in the first year of life?

Yes  No  Not sure

If Yes, what happened? \_\_\_\_\_

Did the mother smoke at any time during the pregnancy the patient?

Yes  No  Not sure

When the patient was born was he/she fed any breastmilk?

Yes  No  Not sure

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**⚠** If Yes and information is not available regarding the biological family history of the patient, please check unknown / unavailable history.

Please complete the following to inform us of the patient's family history (BIOLOGICAL relatives only).

Biological Relatives	Mother	Father	Maternal Grandma	Maternal Grandpa	Paternal Grandma	Paternal Grandpa	Patient's Sibling 1	Patient's Sibling 2	Patient's Sibling 3	Patient's Sibling 4	Patient's Child 1	Patient's Child 2	Patient's Child 3	Patient's Child 4	
Not applicable/ history unavailable															
Date of Birth (mm/dd/yyyy) <i>example: 02/24/ 1974</i>	__/__/__	__/__/__					__/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
Sex							<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	<input type="checkbox"/> M <input type="checkbox"/> F	

**ALLERGY / IMMUNOLOGY**

Allergic rhinitis ( <i>hayfever</i> )														
Angioedema ( <i>tissue swelling disorder</i> )														
Asthma														
Eczema / Atopic dermatitis														
Food allergy														
Hyper eosinophilic syndrome														
Immunodeficiency														
Oral Allergy Syndrome														
Urticaria ( <i>recurrent hives</i> )														

**GASTROINTESTINAL**

Achalasia														
Barrett's esophagus														
Celiac disease														
Eosinophilic Esophagitis ( <i>EoE</i> )														
Eosinophilic GI disorder ( <i>other than EoE</i> )														
Esophageal cancer														
Esophageal dilation or stricture														
Food impaction ( <i>getting stuck in throat</i> )														
Gastroesophageal reflux disease ( <i>GERD</i> )														
Inflammatory Bowel Disease ( <i>IBD</i> )														
Reflux surgery														
Stomach or duodenal ulcer														



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Biological Relatives	Mother	Father	Maternal Grandma	Maternal Grandpa	Paternal Grandma	Paternal Grandpa	Patient's Sibling 1	Patient's Sibling 2	Patient's Sibling 3	Patient's Sibling 4	Patient's Child 1	Patient's Child 2	Patient's Child 3	Patient's Child 4
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*MISCELLANEOUS*

Arthritis / Joint pain														
Diabetes														
Connective Tissue Disorder														
Other:														
Unknown / Unavailable history														

**Office Use Only**

Questionnaire Reviewed By \_\_\_\_\_