

**Supplemental Table 1: p values for Gene Expression Data Assessed for the Two Different Definitions of Histologic Response to Treatment**

Gene name	Nominal p values	
	$\geq 15$ eos/hpf vs $< 15$ eos/hpf)	$< 50\%$ decrease eos/hpf vs $< 1$ eos/hpf)
GCNT3	0.41275344	0.836335116
GRPEL2	0.2736872	0.501577942
ALOX12	0.73834588	0.836762878
CCL26	0.71209473	0.80034951
ANO1	0.8199528	0.64063121
TSPAN12	0.55761749	0.529834832
MSRB3	0.13744655	0.062591649
MMP12	0.29263246	0.669878799
CRYM	0.55310523	0.190433457
RTP4	0.29418539	0.798346884
EPB41L3	0.46078475	0.714103453
MT1M	0.24741827	0.512194647
18S	0.84970044	0.737755397
RUNX2	0.51892836	0.811314796
KRT23	0.01685221	0.161866445
CFB	0.90091506	0.491051463
CLDN10	0.44371242	0.436073331
SLC26A4	0.53859832	0.84442152
SYNPO2L	0.51775961	0.532412241
SAMSN1	0.11643928	0.546152575
CCR3	0.3180221	0.480643166
PTGFRN	0.64894903	0.721757904
IGFL1	0.69635093	0.378817425
CDH20	0.32917805	0.35161342
EML1	0.29265284	0.518058021
TSLP	0.42026473	0.663304151
FLG	0.72685757	0.96961821
NCAM1	0.66583857	0.710575131
IL2RA	0.43407382	0.966550145
NEFM	0.54266033	0.753747282
H19	0.36055271	0.406513133
ENDOU	0.79992888	0.817542948
NEFL	0.99898783	0.336919167
UPK1B	0.97341235	0.255826788
CTNNAL1	0.42965822	0.306998755

PHLDB2	0.64033564	0.864150908
FCGR3B;FCGR3A	0.59175283	0.843315662
IL13	0.44562733	0.971563352
SLC16A6	0.70982573	0.921900638
CRISP2	0.35380996	0.864699021
CTSC	0.23575153	0.878678038
CD200R1	0.36482518	0.522239716
DSG1	0.86747058	0.914653535
GLDC	0.60993279	0.789371896
SYNPO2	0.75467353	0.914081213
ZNF365	0.74173926	0.999071656
PTGDR2	0.37284428	0.42771858
GYS2	0.78129473	0.984560695
NTRK1	0.43080725	0.806341877
HRH1	0.80220358	0.620961076
CITED2	0.49251269	0.868881528
TNFAIP6	0.67890851	0.751792596
TRIM2	0.54325408	0.617882049
SPINK7	0.77381155	0.784054272
SUSD2	0.51240453	0.523123759
TPSB2;TPSAB1	0.29852354	0.926968509
KCNJ2	0.36870394	0.815040722
EPPK1	0.75228612	0.721210948
ACTG2	0.41504233	0.573051582
ARG1	0.80869731	0.957057014
CXCL6	0.37237289	0.532584396
IL4	0.0856738	0.324738448
HILPDA	0.61056966	0.779413171
MUC4	0.71638411	0.781685886
CDA	0.4725825	0.941516159
CMA1	0.17093481	0.365902327
ACPP	0.66839777	0.434086229
CHL1	0.42715795	0.856146064
CDH26	0.40036472	0.845864626
ALOX15	0.70257712	0.9048014
CA2	0.13328594	0.403336222
PMCH	0.98358685	0.701113945
GPR160	0.26324634	0.54485627
IL5	0.09890085	0.317641782
F3	0.62659751	0.80206025

CD3G	0.25830244	0.334922503
IL8	0.31164433	0.656950672
COL8A2	0.98092289	0.575118
APOBEC3A	0.06177775	0.349483846
CLC	0.41494386	0.964060315
CFI	0.24338272	0.620543067
CRISP3	0.93663749	0.775042996
UPK1A	0.65428275	0.840565529
IL5RA	0.54697145	0.839666839
GRK5	0.54191773	0.934021899
IGJ	0.26515439	0.298529959
FKBP5	0.65440558	0.665535617
POSTN	0.313019	0.703124638
TGFB1	0.2219554	0.554008381
CXCL1	0.67387422	0.566644623
PNLIPRP3	0.86060026	0.918953102
UBD	0.73041186	0.650425784
CPA3	0.86892233	0.675626393
LRRC31	0.87068942	0.739868452
HPGDS	0.22750696	0.682500319

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