|  |  |  |  |
| --- | --- | --- | --- |
| **Gene symbol** | **CC-Patchy****Involved Mucosa/Uninvolved Mucosa, n=5** | **Pooled CC-diffuse, n=8/pooled normal controls, n=8** | **Function** |
| **Patient****1** | **Patient****2** | **Patient****3** | **Patient****4** | **Patient****5** |
|  | I/U | I/P | I/U | I/P | I/U | I/P | I/U | I/P | I/U | I/P |  |  |
| **MAP2K1** | 1.00 | -1.11 | -1.08 | 1.03 | -1.07 | 1.00 | 1.16 | 1.04 | 1.03 | -1.05 | 1.03 | MAPK signaling pathways |
| **MAP2K4** | -1.24 | -1.18 | -1.05 | -1.01 | -1.01 | -1.06 | -1.43 | -1.15 | 1.07 | 1.11 | -1.13 | MAPK signaling pathways |
| **MAP2K6** | -1.22 | 1.42 | 1.06 | 1.35 | 1.04 | 1.10 | 1.07 | 1.38 | 1.52 | 2.14 | 1.04 | MAPK signaling pathways |
| **MAP3K1** | 1.01 | -1.22 | -1.51 | 1.07 | 1.12 | 1.34 | -1.04 | 1.21 | 1.18 | 1.17 | -1.09 | MAPK signaling pathways |
| **MAP3K5** | -1.08 | -1.13 | -1.29 | 1.00 | -1.04 | 1.15 | -1.04 | 1.00 | 1.37 | 1.49 | -1.06 | MAPK signaling pathways |
| **MAP3K7** | -1.09 | -1.20 | -1.24 | 1.17 | 1.00 | 1.10 | -1.16 | 1.00 | 1.20 | 1.11 | -1.13 | MAPK signaling pathways |
| **MAP3K9** | -1.36 | -1.47 | -1.21 | -1.06 | -1.08 | -1.05 | 1.09 | -1.13 | 1.46 | 1.23 | -1.21 | MAPK signaling pathways |
| **MAPK1** | -1.11 | -1.36 | -1.14 | -1.09 | 1.06 | -1.05 | -1.33 | -1.13 | 1.00 | -1.30 | -1.27 | MAPK signaling pathways |
| **MAPK14** | -1.08 | -1.26 | -1.02 | 1.17 | 1.05 | 1.11 | -1.30 | -1.14 | 1.15 | 1.05 | -1.18 | MAPK signaling pathways |
| **MAPK3** | -1.08 | -1.48 | -1.05 | -1.42 | -1.03 | -1.14 | -1.52 | -1.47 | -1.11 | -1.53 | -1.46 | MAPK signaling pathways |
| **MAPK8** | 1.01 | -1.17 | -1.07 | 1.07 | 1.01 | -1.24 | -1.17 | -1.09 | 1.20 | -1.10 | -1.25 | MAPK signaling pathways |
| **MAPKAPK2** | 1.33 | 1.50 | -1.06 | -1.37 | 1.15 | 1.45 | 1.09 | 1.49 | 1.07 | 1.41 | 1.42 | MAPK signaling pathways |
| **MAPKAPK5** | -1.10 | -1.33 | -1.07 | 1.16 | -1.07 | 1.20 | -1.26 | -1.16 | 1.40 | 1.41 | 1.00 | MAPK signaling pathways |
| **TNF** | 1.10 | 1.45 | -2.69 | -1.43 | -1.17 | -1.04 | 1.74 | 2.67 | 1.19 | 1.46 | 1.28 | TNF family |
| **TNFAIP3** | 1.07 | 1.16 | -1.10 | 1.73 | 1.04 | 1.58 | 1.42 | 1.71 | 1.26 | 1.73 | 1.39 | TNF family |
| **TNFAIP6** | -2.31 | -14.0 | -1.22 | -9.23 | 3.37 | -4.16 | 1.52 | -2.11 | -6.5 | -14.4 | -1.62 | TNF family |
| **TNFSF10** | 1.14 | 1.77 | 1.35 | 2.35 | -1.02 | 1.02 | 1.70 | 1.86 | -1.57 | 1.15 | 1.31 | TNF family |
| **TNFSF11** | 1.72 | 2.09 | -1.99 | 5.53 | 1.27 | 3.24 | 5.95 | 11.76 | -1.51 | 4.63 | 4.73 | TNF family |
| **TNFSF12** | -1.15 | -1.26 | -1.34 | 1.20 | 1.08 | -1.04 | -1.22 | 1.48 | 1.20 | 1.32 | -1.09 | TNF family |
| **TNFSF13B** | -1.28 | 1.36 | -2.88 | -1.30 | 1.13 | 1.34 | 1.68 | -2.13 | 1.16 | 1.75 | 1.47 | TNF family |
| **TNFSF15** | 1.04 | 1.67 | 1.06 | 1.87 | 1.2- | 2.26 | 1.62 | 2.67 | 1.01 | 1.67 | 1.66 | TNF family |
| **TNFSF4** | -1.01 | 1.31 | -1.08 | 3.18 | -1.15 | 1.80 | 1.61 | 2.29 | 1.11 | 1.38 | 1.78 | TNF family |
| **TNFSF8** | -1.23 | -1.37 | -1.62 | 1.05 | -1.37 | 1.24 | 1.45 | 1.26 | -1.51 | -1.25 | 1.05 | TNF family |
| **TNFRSF10C** | 3.14 | -1.15 | -1.17 | 1.85 | -1.08 | 1.51 | 1.14 | 2.64 | -1.55 | 1.87 | 1.64 | TNF receptor |
| **TNFRSF11A** | -1.13 | 1.41 | 1.06 | 2.10 | -1.06 | 1.34 | 1.66 | 1.59 | 1.27 | 1.77 | 1.31 | TNF receptor |
| **TNFRSF13B** | -1.09 | -3.31 | -2.46 | -1.40 | -1.15 | 1.25 | -1.41 | -1.41 | 1.91 | 1.61 | -1.61 | TNF receptor |
| **TNFRSF13C** | -1.35 | -2.34 | -2.51 | -1.13 | -1.18 | 1.04 | 1.99 | 1.32 | 2.86 | 2.17 | -1.24 | TNF receptor |
| **TNFRSF14** | -1.11 | 1.13 | -1.02 | 1.21 | -1.07 | 1.20 | 1.09 | 1.26 | 1.13 | 1.36 | 1.10 | TNF receptor |
| **TNFRSF17** | 2.13 | -1.23 | -1.21 | -1.02 | 1.06 | 1.57 | -1.14 | 1.20 | -1.58 | 1.01 | 1.16 | TNF receptor |
| **TNFRSF1B** | -1.29 | 1.21 | -1.37 | 1.23 | -1.01 | 1.70 | 1.33 | 1.73 | 1.01 | 1.35 | 1.59 | TNF receptor |
| **TNFRSF4** | 1.59 | 3.18 | 1.07 | 3.97 | -1.08 | 3.16 | 2.38 | 3.72 | -1.31 | 2.73 | 3.51 | TNF receptor |
| **TNFRSF8** | 1.51 | 2.57 | -1.99 | 1.31 | 1.36 | 2.94 | 2.50 | 3.00 | -1.22 | 2.80 | 3.04 | TNF receptor |
| **TNFRSF9** | 1.08 | 4.80 | -1.35 | 5.90 | -1.05 | 6.34 | 7.11 | 8.74 | -1.03 | 5.07 | 5.24 | TNF receptor |
| **CD40** | -1.08 | 2.29 | -1.27 | 1.90 | 1.08 | 2.30 | 2.09 | 2.97 | -1.03 | 2.68 | 2.18 | TNF receptor |
| **TRAF1** | 1.00 | 1.91 | -2.32 | 1.37 | -1.11 | 2.34 | 2.92 | 3.36 | 1.20 | 2.71 | 2.17 | TNF receptor associated factor |
| **TRAF2** | -1.03 | 1.01 | -1.06 | 1.27 | 1.05 | 1.25 | 1.09 | 1.16 | 1.14 | 1.24 | 1.22 | TNF receptor associated factor |
| **TRAF3** | 1.00 | -1.08 | -1.17 | 1.24 | 1.00 | 1.08 | 1.06 | 1.17 | 1.21 | 1.24 | 1.10 | TNF receptor associated factor |
| **TRAF4** | -1.14 | -1.27 | 1.05 | -1.24 | -1.04 | -1.13 | -1.14 | -1.19 | 1.05 | -1.10 | -1.33 | TNF receptor associated factor |
| **TRAF5** | 1.01 | 1.01 | -1.20 | 1.37 | -1.04 | -1.07 | 1.36 | 1.51 | 1.03 | 1.37 | 1.01 | TNF receptor associated factor |
| **TRAF6** | -1.06 | -1.09 | -1.25 | 1.01 | 1.07 | 1.10 | -1.15 | -1.07 | 1.17 | 1.02 | -1.15 | TNF receptor associated factor |
| **NOD1** | -1.12 | -1.01 | -1.10 | 1.28 | 1.01 | 1.40 | 1.05 | 1.19 | 1.15 | 1.29 | 1.01 | NOD signaling |
| **RIPK2** | 1.06 | 1.31 | -1.01 | 1.47 | 1.10 | 1.14 | 1.17 | 1.33 | 1.06 | 1.20 | 1.26 | NOD signaling |
| **NLRP3** | 1.17 | -1.29 | -1.68 | -1.52 | -1.24 | -1.34 | -1.36 | -1.01 | 1.06 | -1.2 | -1.35 | NOD signaling |
| **CARD9** | -1.07 | 1.12 | 1.04 | 1.61 | 1.65 | 1.65 | -1.21 | 1.14 | 1.01 | 1.25 | -1.12 | NOD signaling |
| **ATG5** | -1.10 | -1.30 | 1.01 | -1.09 | -1.03 | -1.16 | -1.13 | -1.16 | -1.08 | -1.39 | -1.30 | NOD signaling |
| **ATG12** | -1.11 | -1.19 | 1.14 | 1.33 | 1.21 | 1.67 | -1.17 | -1.18 | -1.05 | -1.06 | 1.15 | NOD signaling |
| **ATG16L1** | -1.09 | -1.29 | -1.17 | -1.19 | -1.06 | -1.12 | -1.23 | -1.19 | 1.04 | -1.21 | -1.18 | NOD signaling |
| **CASP1** | -1.25 | 3.74 | 1.37 | 1.68 | -1.04 | 2.51 | 2.98 | 2.57 | -1.14 | 2.59 | 2.47 | NF-kappa B cascade |
| **EOMES** | -10.9 | 1.03 | 1.50 | 45.32 | 1.05 | 1.08 | 28.55 | 28.55 | -3.34 | 10.42 | 17.47 | NF-kappa B cascade |
| **CHUK** | -1.09 | -1.03 | -1.11 | -1.09 | 1.05 | 1.17 | -1.07 | -1.01 | -1.09 | -1.16 | 1.06 | NF-kappa B cascade |
| **IKBKB** | -1.24 | -1.16 | -1.08 | 1.42 | 1.06 | 1.31 | 1.03 | 1.07 | 1.09 | 1.33 | 1.07 | NF-kappa B cascade |
| **IKBKG** | -1.16 | -1.09 | 1.09 | 1.27 | -1.08 | 1.01 | -1.14 | 1.02 | 1.14 | 1.20 | -1.02 | NF-kappa B cascade |
| **MUC1** | -1.07 | 4.32 | 1.82 | 1.62 | -1.01 | 2.77 | 5.16 | 3.33 | -1.02 | 3.49 | 3.27 | NF-kappa B cascade |
| **NFKB1Z** | 1.21 | 2.25 | 1.32 | 2.09 | 1.18 | 1.26 | 1.47 | 1.67 | 1.39 | 3.30 | 1.97 | NF-kappa B cascade |

**Supplemental Table 6.** **Expression of representative genes of TNF family, NOD1/2, MAPK and NF-κB signaling cascades by NanoString nCounter gene expression assay. The gene expression was not confirmed by qRT-PCR.** Data represent the fold changes (FC) of gene expression in involved mucosa or pooled CC samples compared with pooled normal colonic controls. The corresponding FC between histologically involved and uninvolved mucosa from 5 CC patients are listed for comparison. I/U, involved mucosa vs. uninvolved mucosa; I/P, involved mucosa vs. pooled normal colonic controls. Positive FC indicates upregulation and negative FC indicates downregulation.