

## Targeted Genes and Methodology Details for Combined Humoral and Cell-Mediated Immunodeficiency Gene Panel

The following applies to COMID / Combined Humoral and Cell-Mediated Immunodeficiency Gene Panel, Varies. Testing is performed to evaluate for the presence of variants in coding regions and extending to +/- 10 base pairs of adjacent intronic sequence on either side of the coding exons of the genes analyzed. In addition, the analysis will cover select noncoding variants. Next-generation sequencing and/or a polymerase chain reaction-based quantitative method is performed to test for the presence of copy number variants (CNV) in the genes analyzed. Confirmation of select reportable variants may be performed by alternate methodologies based on internal laboratory criteria.

This list is current from July 2025 to the present. This document is intended to highlight additional evaluations for variants of high clinical interest as well as technical limitations. However, this document does not comprehensively reflect all genomic regions covered by this test. For questions regarding transcripts, genes or regions covered, contact the laboratory at 800-533-1710.

Genomic Build: GRCh37 (hg19) unless otherwise specified

Gene	Reference Transcript	Additional Evaluations	Technical Limitations
<i>ADA</i>	NM_000022.4	chr20:g.43249076C>T (c.976-34G>A); chr20:g.43248503A>T (c.1079-15T>A)	-
<i>AK2</i>	NM_001625.4	-	-
<i>ARPC1B</i>	NM_005720.4	-	-
<i>ATM</i>	NM_000051.3	chr11:g.108138753A>G (c.2639-384A>G); chr11:g.108139118_108139130del (c.2639-19_2639-7del); chr11: g.108141212_108141215del (c.2839-579_2839-576del); chr11:g.108164028A>G (c.4612-12A>G); chr11:g.108179837A>G (c.5763-1050A>G); chr11:g.108217993_108218019del (c.8585-13_8598del)	-
<i>BCL10</i>	NM_003921.5	-	-
<i>BCL11B</i>	NM_138576.4	-	-
<i>BLM</i>	NM_000057.4	-	-
<i>CARD11</i>	NM_032415.6	-	-
<i>CD247</i>	NM_198053.2	-	-
<i>CD28</i>	NM_006139.4	-	-
<i>CD3D</i>	NM_000732.4	-	-
<i>CD3E</i>	NM_000733.4	-	CNV analysis in exon 4 is not performed
<i>CD3G</i>	NM_000073.2	-	-
<i>CD40</i>	NM_001250.6	-	-
<i>CD40LG</i>	NM_000074.3	-	-
<i>CD70</i>	NM_001252.5	-	-
<i>CD8A</i>	NM_001768.6	-	-
<i>CDCA7</i>	NM_031942.5	-	-
<i>CHD7</i>	NM_017780.4	chr8:g.61763035 to chr8:g.61763039 (c.5405-17 to c.5405-13)	-
<i>CIITA</i>	NM_000246.3	-	-
<i>CORO1A</i>	NM_007074.3	-	CNV analysis in exon 11 is not performed
<i>CTLA4</i>	NM_005214.5	-	-

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<i>DCLRE1C</i>	NM_001033855.3	-	-
<i>DNMT3B</i>	NM_006892.4	chr20:g.31395557G>A (c.2421-11G>A)	-
<i>DOCK2</i>	NM_004946.3	-	-
<i>DOCK8</i>	NM_203447.3	chr9:g.317025 to chr9:g.317028 (c.742-18 to c.742-15); chr9:g.372260_372348del (c.2083_2109+62del)	-
<i>EPG5</i>	NM_020964.3	-	-
<i>ERCC6L2</i>	NM_020207.5	-	-
<i>EXTL3</i>	NM_001440.4	-	-
<i>FCHO1</i>	NM_015122.3	-	-
<i>FOXP1</i>	NM_003593.2	-	-
<i>GIN1</i>	NM_021067.5	chr20:g.25388397A>G (c.-60A>G); chr20:g.25388409C>G (c.-48C>G);	-
<i>HELLS</i>	NM_018063.5	-	CNV analysis in exon 4 is not performed, sequence and CNV analysis in exon 7 is not performed
<i>ICOS</i>	NM_012092.4	-	-
<i>ICOSLG</i>	NM_015259.6	-	-
<i>IKBKB</i>	NM_001556.3	-	-
<i>IKBKG</i>	NM_001099857.3	chrX:g.153775960G>C (c.-16G>C); chrX:g.153788599A>T (c.519-23A>T); chrX:g.153787731C>T (c.518+866C>T); 11.7 kb deletion spanning <i>IKBKG</i> exons 4–10	CNV analysis in exons 3–10 is not performed with the exception of the common 11.7 kb deletion spanning exons 4–10
<i>IKZF1</i>	NM_001291845.2; NM_006060.6	-	CNV analysis in exons 4–8 is not performed
<i>IL21</i>	NM_021803.4	-	-
<i>IL21R</i>	NM_021798.4	-	-
<i>IL2RA</i>	NM_000417.3	-	-
<i>IL2RB</i>	NM_000878.5	-	-
<i>IL2RG</i>	NM_000206.2	chrX:g.70331494G>A (c.-105C>T); chrX:g.70330553T>C (c.270-15A>G); chrX:g.70329246_70329257del (c.595-15_595-4del)	-
<i>IL7R</i>	NM_002185.5	chr5:g.35867853G>A (c.379+288G>A)	-
<i>ITK</i>	NM_005546.3	-	-
<i>ITPKB</i>	NM_002221.3	-	-
<i>JAK3</i>	NM_000215.3	chr19:g.17946035C>T (c.1915-11G>A); chr19:g.17943239C>T (c.2680+89G>A)	-
<i>KDM6A</i>	NM_021140.3	-	-
<i>KMT2A</i>	NM_001197104.1	-	-
<i>KMT2D</i>	NM_003482.3	-	-
<i>LAT</i>	NM_001014987.2	-	-

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<i>LCK</i>	NM_001042771.2	-	-
<i>LCP2</i>	NM_005565.5	-	CNV analysis in exon 8 is not performed
<i>LIG1</i>	NM_000234.3	-	-
<i>LIG4</i>	NM_002312.3	-	-
<i>LRBA</i>	NM_006726.4	-	CNV analysis in exons 20 and 39 is not performed
<i>MAGT1</i>	NM_032121.5	-	-
<i>MALT1</i>	NM_006785.4	-	CNV analysis in exon 8 is not performed
<i>MAP3K14</i>	NM_003954.5	-	-
<i>MCM10</i>	NM_182751.3	-	-
<i>MSN</i>	NM_002444.3	-	-
<i>MTHFD1</i>	NM_005956.4	-	-
<i>MYSM1</i>	NM_001085487.3	-	-
<i>NBN</i>	NM_002485.4	-	CNV analysis in exon 16 is not performed
<i>NFKBIA</i>	NM_020529.2	-	-
<i>NHEJ1</i>	NM_024782.2	-	-
<i>NSMCE3</i>	NM_138704.4	-	-
<i>ORAI1</i>	NM_032790.3	-	-
<i>PAX1</i>	NM_006192.5	-	-
<i>PGM3</i>	NM_001199917.2	-	-
<i>PNP</i>	NM_000270.3	chr14:g.20942914G>A (c.286-18G>A)	-
<i>POLD1</i>	NM_002691.4	-	-
<i>POLE</i>	NM_006231.4	-	-
<i>POLE2</i>	NM_002692.4	-	CNV analysis in exons 8 and 19 is not performed
<i>PRKDC</i>	NM_006904.7	-	-
<i>PSMB9</i>	NM_002800.5	-	-
<i>PTPRC</i>	NM_002838.5	-	-
<i>RAC2</i>	NM_002872.5	-	-
<i>RAG1</i>	NM_000448.2	-	-
<i>RAG2</i>	NM_000536.4	-	-
<i>RASGRP1</i>	NM_005739.4	-	-
<i>RBCK1</i>	NM_031229.4	-	-
<i>REL</i>	NM_002908.4	-	CNV analysis in exon 9 is not performed
<i>RELA</i>	NM_021975.4	-	-
<i>RELB</i>	NM_006509.4	-	-

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Gene	Reference Transcript	Additional Evaluations	Technical Limitations
<i>RFX5</i>	NM_000449.3	-	-
<i>RFXANK</i>	NM_003721.4	chr19:g.19308305_19308330del (c.338-25_338del); chr19:g.19308411_19308468del (c.419_438+38del)	-
<i>RFXAP</i>	NM_000538.3	-	-
<i>RHOH</i>	NM_004310.5	-	-
<i>RMRP</i> ( <i>NME1</i> )	NR_003051.3	5' UTR variants from n.-25 through the transcription initiation site	CNV analysis is not performed
<i>RNF168</i>	NM_152617.4	-	-
<i>RNF31</i>	NM_017999.5	-	-
<i>RNU4ATAC</i>	NR_023343.1	-	CNV analysis is not performed
<i>SEC61A1</i>	NM_013336.4	-	-
<i>SEMA3E</i>	NM_012431.3	-	-
<i>SH2D1A</i>	NM_002351.4	-	-
<i>SKIV2L</i> ( <i>SKIC2</i> )	NM_006929.5	-	-
<i>SMARCAL1</i>	NM_014140.4	-	-
<i>SP110</i>	NM_004509.4	-	-
<i>STAT3</i>	NM_139276.2	chr17:g.40478306G>A (c.1282-89C>T)	-
<i>STAT5B</i>	NM_012448.4	-	CNV analysis in exons 6–8 is not performed
<i>STIM1</i>	NM_003156.3	-	-
<i>STK4</i>	NM_006282.5	-	-
<i>TAP1</i>	NM_000593.5	-	-
<i>TAP2</i>	NM_000544.3	-	-
<i>TAPBP</i>	NM_003190.4	-	-
<i>TAZ</i> ( <i>TAFAZZIN</i> )	NM_000116.5	chrX:g.153641699G>A (c.284+110G>A)	-
<i>TBX1</i>	NM_080647.1	-	-
<i>TFRC</i>	NM_003234.4	-	-
<i>TNFRSF4</i>	NM_003327.4	-	-
<i>TRAC</i>	ENST00000611116.1	-	CNV analysis is not performed
<i>TTC37</i> ( <i>SKIC3</i> )	NM_014639.3	-	-
<i>TTC7A</i>	NM_020458.4	-	-
<i>WAS</i>	NM_000377.3	chrX:g.48547690_48547698delinsATCTGCAGACC (c.1339-19_1339-11delinsATCTGCAGACC)	-
<i>WIPF1</i>	NM_001077269.1	-	-
<i>ZAP70</i>	NM_001079.3	chr2:g.98349927G>A (c.838-80G>A); chr2:g.98354447G>A (c.1624-11G>A)	-
<i>ZBTB24</i>	NM_014797.2	-	-