

Immuno-Oncology targeted proteomics panel 4 (direct-targeted MS)

oM = oxidized Met, p  
= phospho,  
uK=ubiquitinated Lys

(398 analytes)

| Gene Symbol | Target protein name                                                               | UniProt ID (& link)    | Modification/<br>Variant* |
|-------------|-----------------------------------------------------------------------------------|------------------------|---------------------------|
| ABCE1       | ATP-binding cassette, sub-family E (OABP), member 1                               | <a href="#">P61221</a> | nonmod                    |
| ABCE1       | ATP-binding cassette, sub-family E (OABP), member 1                               | <a href="#">P61221</a> | nonmod                    |
| ABI1        | abl-interactor 1                                                                  | <a href="#">Q8IZP0</a> | nonmod                    |
| ABI1        | abl-interactor 1                                                                  | <a href="#">Q8IZP0</a> | nonmod                    |
| AKT1        | v-akt murine thymoma viral oncogene homolog 1                                     | <a href="#">P31749</a> | nonmod                    |
| AKT1        | v-akt murine thymoma viral oncogene homolog 1                                     | <a href="#">P31749</a> | nonmod                    |
| ANXA1       | annexin A1                                                                        | <a href="#">P04083</a> | nonmod                    |
| ANXA4       | annexin A4                                                                        | <a href="#">P09525</a> | nonmod                    |
| ANXA5       | annexin A5                                                                        | <a href="#">P08758</a> | nonmod                    |
| ANXA5       | annexin A5                                                                        | <a href="#">P08758</a> | nonmod                    |
| ANXA6       | annexin A6                                                                        | <a href="#">P08133</a> | nonmod                    |
| B2M         | beta-2-microglobulin                                                              | <a href="#">P61769</a> | nonmod                    |
| B2M         | beta-2-microglobulin                                                              | <a href="#">P61769</a> | nonmod                    |
| BCAP31      | B-cell receptor-associated protein 31                                             | <a href="#">P51572</a> | nonmod                    |
| BCAP31      | B-cell receptor-associated protein 31                                             | <a href="#">P51572</a> | nonmod                    |
| BCL2        | B-cell CLL/lymphoma 2                                                             | <a href="#">P10415</a> | nonmod                    |
| BCL2L1      | BCL2-like 1                                                                       | <a href="#">Q07817</a> | nonmod                    |
| BCL2L11     | BCL2-like 11 (apoptosis facilitator)                                              | <a href="#">Q43521</a> | nonmod                    |
| BCL2L11     | BCL2-like 11 (apoptosis facilitator)                                              | <a href="#">Q43521</a> | nonmod                    |
| BCL3        | B-cell CLL/lymphoma 3                                                             | <a href="#">P20749</a> | nonmod                    |
| BCL3        | B-cell CLL/lymphoma 3                                                             | <a href="#">P20749</a> | nonmod                    |
| BID         | BH3 interacting domain death agonist                                              | <a href="#">P55957</a> | nonmod                    |
| BID         | BH3 interacting domain death agonist                                              | <a href="#">P55957</a> | nonmod                    |
| BNIP3L      | BCL2/adenovirus E1B 19kDa interacting protein 3-like                              | <a href="#">Q60238</a> | nonmod                    |
| BNIP3L      | BCL2/adenovirus E1B 19kDa interacting protein 3-like                              | <a href="#">Q60238</a> | nonmod                    |
| BPGM        | 2,3-bisphosphoglycerate mutase                                                    | <a href="#">P07738</a> | nonmod                    |
| BPGM        | 2,3-bisphosphoglycerate mutase                                                    | <a href="#">P07738</a> | nonmod                    |
| BST2        | bone marrow stromal cell antigen 2                                                | <a href="#">Q10589</a> | nonmod                    |
| BST2        | bone marrow stromal cell antigen 2                                                | <a href="#">Q10589</a> | nonmod                    |
| C1QA        | complement component 1, q subcomponent, A chain                                   | <a href="#">P02745</a> | nonmod                    |
| C1QA        | complement component 1, q subcomponent, A chain                                   | <a href="#">P02745</a> | nonmod                    |
| C1QB        | complement component 1, q subcomponent, B chain                                   | <a href="#">P02746</a> | nonmod                    |
| C1QB        | complement component 1, q subcomponent, B chain                                   | <a href="#">P02746</a> | nonmod                    |
| C1QBP       | complement component 1, q subcomponent binding protein                            | <a href="#">Q07021</a> | nonmod                    |
| C1QC        | complement component 1, q subcomponent, C chain                                   | <a href="#">P02747</a> | nonmod                    |
| C1QC        | complement component 1, q subcomponent, C chain                                   | <a href="#">P02747</a> | nonmod                    |
| C1R         | complement component 1, r subcomponent                                            | <a href="#">P00736</a> | nonmod                    |
| C1R         | complement component 1, r subcomponent                                            | <a href="#">P00736</a> | nonmod                    |
| C1RL        | complement component 1, r subcomponent-like                                       | <a href="#">Q9NZP8</a> | nonmod                    |
| C1RL        | complement component 1, r subcomponent-like                                       | <a href="#">Q9NZP8</a> | nonmod                    |
| C1S         | complement component 1, s subcomponent                                            | <a href="#">P09871</a> | nonmod                    |
| C1S         | complement component 1, s subcomponent                                            | <a href="#">P09871</a> | nonmod                    |
| C2          | complement component 2                                                            | <a href="#">P06681</a> | nonmod                    |
| C2          | complement component 2                                                            | <a href="#">P06681</a> | nonmod                    |
| C3          | complement component 3                                                            | <a href="#">P01024</a> | nonmod                    |
| C3          | complement component 3                                                            | <a href="#">P01024</a> | nonmod                    |
| C4B         | complement component 4B (Chido blood group)                                       | <a href="#">P0COL4</a> | nonmod                    |
| C4B         | complement component 4B (Chido blood group)                                       | <a href="#">P0COL4</a> | nonmod                    |
| C4BPA       | complement component 4 binding protein, alpha                                     | <a href="#">P04003</a> | nonmod                    |
| C4BPA       | complement component 4 binding protein, alpha                                     | <a href="#">P04003</a> | nonmod                    |
| C4BPB       | complement component 4 binding protein, beta                                      | <a href="#">P20851</a> | nonmod                    |
| C4BPB       | complement component 4 binding protein, beta                                      | <a href="#">P20851</a> | nonmod                    |
| C5          | complement component 5                                                            | <a href="#">P01031</a> | nonmod                    |
| C5          | complement component 5                                                            | <a href="#">P01031</a> | nonmod                    |
| C5AR1       | complement component 5a receptor 1                                                | <a href="#">P21730</a> | nonmod                    |
| C6          | complement component 6                                                            | <a href="#">P13671</a> | nonmod                    |
| C6          | complement component 6                                                            | <a href="#">P13671</a> | nonmod                    |
| C7          | complement component 7                                                            | <a href="#">P10643</a> | nonmod                    |
| C7          | complement component 7                                                            | <a href="#">P10643</a> | nonmod                    |
| C8A         | complement component 8, alpha polypeptide                                         | <a href="#">P07357</a> | nonmod                    |
| C8A         | complement component 8, alpha polypeptide                                         | <a href="#">P07357</a> | nonmod                    |
| C8B         | complement component 8, beta polypeptide                                          | <a href="#">P07358</a> | nonmod                    |
| C8B         | complement component 8, beta polypeptide                                          | <a href="#">P07358</a> | nonmod                    |
| C8G         | complement component 8, gamma polypeptide                                         | <a href="#">P07360</a> | nonmod                    |
| C8G         | complement component 8, gamma polypeptide                                         | <a href="#">P07360</a> | nonmod                    |
| C9          | complement component 9                                                            | <a href="#">P02748</a> | nonmod                    |
| C9          | complement component 9                                                            | <a href="#">P02748</a> | nonmod                    |
| CAMK2D      | calcium/calmodulin-dependent protein kinase II delta                              | <a href="#">Q13557</a> | nonmod                    |
| CAMK2D      | calcium/calmodulin-dependent protein kinase II delta                              | <a href="#">Q13557</a> | nonmod                    |
| CAMK2G      | calcium/calmodulin-dependent protein kinase II gamma                              | <a href="#">Q13555</a> | nonmod                    |
| CAMK2G      | calcium/calmodulin-dependent protein kinase II gamma                              | <a href="#">Q13555</a> | nonmod                    |
| CAPG        | capping protein (actin filament), gelsolin-like                                   | <a href="#">P40121</a> | nonmod                    |
| CASP1       | caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase) | <a href="#">P29466</a> | nonmod                    |

This panel does not require  
monoclonal antibodies

|        |                                                                                   |                        |        |
|--------|-----------------------------------------------------------------------------------|------------------------|--------|
| CASP1  | caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase) | <a href="#">P29466</a> | nonmod |
| CASP10 | caspase 10, apoptosis-related cysteine peptidase                                  | <a href="#">Q92851</a> | nonmod |
| CASP10 | caspase 10, apoptosis-related cysteine peptidase                                  | <a href="#">Q92851</a> | nonmod |
| CASP2  | caspase 2, apoptosis-related cysteine peptidase                                   | <a href="#">P42575</a> | nonmod |
| CASP2  | caspase 2, apoptosis-related cysteine peptidase                                   | <a href="#">P42575</a> | nonmod |
| CASP3  | caspase 3, apoptosis-related cysteine peptidase                                   | <a href="#">P42574</a> | nonmod |
| CASP3  | caspase 3, apoptosis-related cysteine peptidase                                   | <a href="#">P42574</a> | nonmod |
| CASP4  | caspase 4, apoptosis-related cysteine peptidase                                   | <a href="#">P49662</a> | nonmod |
| CASP6  | caspase 6, apoptosis-related cysteine peptidase                                   | <a href="#">P55212</a> | nonmod |
| CASP6  | caspase 6, apoptosis-related cysteine peptidase                                   | <a href="#">P55212</a> | nonmod |
| CASP7  | caspase 7, apoptosis-related cysteine peptidase                                   | <a href="#">P55210</a> | nonmod |
| CASP7  | caspase 7, apoptosis-related cysteine peptidase                                   | <a href="#">P55210</a> | nonmod |
| CASP8  | caspase 8, apoptosis-related cysteine peptidase                                   | <a href="#">Q14790</a> | nonmod |
| CASP8  | caspase 8, apoptosis-related cysteine peptidase                                   | <a href="#">Q14790</a> | nonmod |
| CASP9  | caspase 9, apoptosis-related cysteine peptidase                                   | <a href="#">P55211</a> | nonmod |
| CAV1   | caveolin 1, caveolae protein, 22kDa                                               | <a href="#">Q03135</a> | nonmod |
| CAV1   | caveolin 1, caveolae protein, 22kDa                                               | <a href="#">Q03135</a> | nonmod |
| CCR1   | chemokine (C-C motif) receptor 1                                                  | <a href="#">P32246</a> | nonmod |
| CCR1   | chemokine (C-C motif) receptor 1                                                  | <a href="#">P32246</a> | nonmod |
| CD14   | CD14 molecule                                                                     | <a href="#">P08571</a> | nonmod |
| CD2    | CD2 molecule                                                                      | <a href="#">P06729</a> | nonmod |
| CD36   | CD36 molecule (thrombospondin receptor)                                           | <a href="#">P16671</a> | nonmod |
| CD36   | CD36 molecule (thrombospondin receptor)                                           | <a href="#">P16671</a> | nonmod |
| CD38   | CD38 molecule                                                                     | <a href="#">P28907</a> | nonmod |
| CD38   | CD38 molecule                                                                     | <a href="#">P28907</a> | nonmod |
| CD3D   | CD3d molecule, delta (CD3-TCR complex)                                            | <a href="#">P04234</a> | nonmod |
| CD3D   | CD3d molecule, delta (CD3-TCR complex)                                            | <a href="#">P04234</a> | nonmod |
| CD3E   | CD3e molecule, epsilon (CD3-TCR complex)                                          | <a href="#">P07766</a> | nonmod |
| CD46   | CD46 molecule, complement regulatory protein                                      | <a href="#">P15529</a> | nonmod |
| CD46   | CD46 molecule, complement regulatory protein                                      | <a href="#">P15529</a> | nonmod |
| CD55   | CD55 molecule, decay accelerating factor for complement (Cromer blood group)      | <a href="#">P08174</a> | nonmod |
| CD55   | CD55 molecule, decay accelerating factor for complement (Cromer blood group)      | <a href="#">P08174</a> | nonmod |
| CD59   | CD59 molecule, complement regulatory protein                                      | <a href="#">P13987</a> | nonmod |
| CD81   | CD81 molecule                                                                     | <a href="#">P60033</a> | nonmod |
| CD81   | CD81 molecule                                                                     | <a href="#">P60033</a> | nonmod |
| CD82   | CD82 molecule                                                                     | <a href="#">P27701</a> | nonmod |
| CD82   | CD82 molecule                                                                     | <a href="#">P27701</a> | nonmod |
| CD8A   | CD8a molecule                                                                     | <a href="#">P01732</a> | nonmod |
| CD9    | CD9 molecule                                                                      | <a href="#">P21926</a> | nonmod |
| CD9    | CD9 molecule                                                                      | <a href="#">P21926</a> | nonmod |
| CFB    | complement factor B                                                               | <a href="#">P00751</a> | nonmod |
| CFB    | complement factor B                                                               | <a href="#">P00751</a> | nonmod |
| CFD    | complement factor D (adipsin)                                                     | <a href="#">P00746</a> | nonmod |
| CFD    | complement factor D (adipsin)                                                     | <a href="#">P00746</a> | nonmod |
| CFH    | complement factor H                                                               | <a href="#">P08603</a> | nonmod |
| CFH    | complement factor H                                                               | <a href="#">P08603</a> | nonmod |
| CFHR2  | complement factor H-related 2                                                     | <a href="#">P36980</a> | nonmod |
| CFI    | complement factor I                                                               | <a href="#">P05156</a> | nonmod |
| CFP    | complement factor properdin                                                       | <a href="#">P27918</a> | nonmod |
| CHI3L1 | chitinase 3-like 1 (cartilage glycoprotein-39)                                    | <a href="#">P36222</a> | nonmod |
| CHI3L1 | chitinase 3-like 1 (cartilage glycoprotein-39)                                    | <a href="#">P36222</a> | nonmod |
| CLU    | clusterin                                                                         | <a href="#">P10909</a> | nonmod |
| CMA1   | chymase 1, mast cell                                                              | <a href="#">P23946</a> | nonmod |
| CREB1  | cAMP responsive element binding protein 1                                         | <a href="#">P16220</a> | nonmod |
| CREBBP | CREB binding protein                                                              | <a href="#">Q92793</a> | nonmod |
| CREBBP | CREB binding protein                                                              | <a href="#">Q92793</a> | nonmod |
| CSF1   | colony stimulating factor 1 (macrophage)                                          | <a href="#">P09603</a> | nonmod |
| CSF1   | colony stimulating factor 1 (macrophage)                                          | <a href="#">P09603</a> | nonmod |
| CSK    | c-src tyrosine kinase                                                             | <a href="#">P41240</a> | nonmod |
| CSK    | c-src tyrosine kinase                                                             | <a href="#">P41240</a> | nonmod |
| CTR9   | Ctr9, Paf1/RNA polymerase II complex component, homolog (S. cerevisiae)           | <a href="#">Q6PD62</a> | nonmod |
| CTSB   | cathepsin B                                                                       | <a href="#">P07858</a> | nonmod |
| CTSB   | cathepsin B                                                                       | <a href="#">P07858</a> | nonmod |
| CTSE   | cathepsin E                                                                       | <a href="#">P14091</a> | nonmod |
| CTSE   | cathepsin E                                                                       | <a href="#">P14091</a> | nonmod |
| CTSH   | cathepsin H                                                                       | <a href="#">P09668</a> | nonmod |
| CTSK   | cathepsin K                                                                       | <a href="#">P43235</a> | nonmod |
| CTSS   | cathepsin S                                                                       | <a href="#">P25774</a> | nonmod |
| CTSS   | cathepsin S                                                                       | <a href="#">P25774</a> | nonmod |
| CXCR4  | chemokine (C-X-C motif) receptor 4                                                | <a href="#">P61073</a> | nonmod |
| TKFC   | triokinase and FMN cyclase                                                        | <a href="#">Q3LXA3</a> | nonmod |
| DAP3   | death associated protein 3                                                        | <a href="#">P51398</a> | nonmod |
| DARS   | aspartyl-tRNA synthetase                                                          | <a href="#">P14868</a> | nonmod |
| DARS   | aspartyl-tRNA synthetase                                                          | <a href="#">P14868</a> | nonmod |
| DDX3X  | DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked                                | <a href="#">Q00571</a> | nonmod |
| DEGS1  | degenerative spermatocyte homolog 1, lipid desaturase (Drosophila)                | <a href="#">Q15121</a> | nonmod |
| DPP4   | dipeptidyl-peptidase 4                                                            | <a href="#">P27487</a> | nonmod |
| DPP4   | dipeptidyl-peptidase 4                                                            | <a href="#">P27487</a> | nonmod |
| DUSP3  | dual specificity phosphatase 3                                                    | <a href="#">P51452</a> | nonmod |

|         |                                                                                                       |                        |        |
|---------|-------------------------------------------------------------------------------------------------------|------------------------|--------|
| DUSP3   | dual specificity phosphatase 3                                                                        | <a href="#">P51452</a> | nonmod |
| EFNA1   | ephrin-A1                                                                                             | <a href="#">P20827</a> | nonmod |
| EFNA1   | ephrin-A1                                                                                             | <a href="#">P20827</a> | nonmod |
| EGR1    | early growth response 1                                                                               | <a href="#">P18146</a> | nonmod |
| ELANE   | elastase, neutrophil expressed                                                                        | <a href="#">P08246</a> | nonmod |
| ELANE   | elastase, neutrophil expressed                                                                        | <a href="#">P08246</a> | nonmod |
| EPCAM   | epithelial cell adhesion molecule                                                                     | <a href="#">P16422</a> | nonmod |
| F2      | coagulation factor II (thrombin)                                                                      | <a href="#">P00734</a> | nonmod |
| F2      | coagulation factor II (thrombin)                                                                      | <a href="#">P00734</a> | nonmod |
| FAS     | Fas (TNF receptor superfamily, member 6)                                                              | <a href="#">P25445</a> | nonmod |
| FCER1G  | Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide                                  | <a href="#">P30273</a> | nonmod |
| FCER1G  | Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide                                  | <a href="#">P30273</a> | nonmod |
| FCGR1A  | Fc fragment of IgG, high affinity Ia, receptor (CD64)                                                 | <a href="#">P12314</a> | nonmod |
| FCGR1A  | Fc fragment of IgG, high affinity Ia, receptor (CD64)                                                 | <a href="#">P12314</a> | nonmod |
| FCN1    | ficolin (collagen/fibrinogen domain containing) 1                                                     | <a href="#">Q00602</a> | nonmod |
| FCN3    | ficolin (collagen/fibrinogen domain containing) 3 (Hakata antigen)                                    | <a href="#">Q75636</a> | nonmod |
| GBP1    | guanylate binding protein 1, interferon-inducible, 67kDa                                              | <a href="#">P32455</a> | nonmod |
| GBP1    | guanylate binding protein 1, interferon-inducible, 67kDa                                              | <a href="#">P32455</a> | nonmod |
| GCA     | grancalcin, EF-hand calcium binding protein                                                           | <a href="#">P28676</a> | nonmod |
| GCA     | grancalcin, EF-hand calcium binding protein                                                           | <a href="#">P28676</a> | nonmod |
| GPLD1   | glycosylphosphatidylinositol specific phospholipase D1                                                | <a href="#">P80108</a> | nonmod |
| GZMA    | granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3)                          | <a href="#">P12544</a> | nonmod |
| HCLS1   | hematopoietic cell-specific Lyn substrate 1                                                           | <a href="#">P14317</a> | nonmod |
| HCLS1   | hematopoietic cell-specific Lyn substrate 1                                                           | <a href="#">P14317</a> | nonmod |
| HLA-DMB | major histocompatibility complex, class II, DM beta                                                   | <a href="#">P28068</a> | nonmod |
| HLA-DMB | major histocompatibility complex, class II, DM beta                                                   | <a href="#">P28068</a> | nonmod |
| HLA-DRA | major histocompatibility complex, class II, DR alpha                                                  | <a href="#">P01903</a> | nonmod |
| HLA-G   | major histocompatibility complex, class I, G                                                          | <a href="#">P17693</a> | nonmod |
| ICAM1   | intercellular adhesion molecule 1                                                                     | <a href="#">P05362</a> | nonmod |
| ICAM1   | intercellular adhesion molecule 1                                                                     | <a href="#">P05362</a> | nonmod |
| IDH2    | isocitrate dehydrogenase 2 (NADP+), mitochondrial                                                     | <a href="#">P48735</a> | nonmod |
| IDO1    | indoleamine 2,3-dioxygenase 1                                                                         | <a href="#">P14902</a> | nonmod |
| IFI27   | interferon, alpha-inducible protein 27                                                                | <a href="#">P40305</a> | nonmod |
| IFI30   | interferon, gamma-inducible protein 30                                                                | <a href="#">P13284</a> | nonmod |
| IFI35   | interferon-induced protein 35                                                                         | <a href="#">P80217</a> | nonmod |
| IFI35   | interferon-induced protein 35                                                                         | <a href="#">P80217</a> | nonmod |
| IFI44   | interferon-induced protein 44                                                                         | <a href="#">Q8TCB0</a> | nonmod |
| IFI44L  | interferon-induced protein 44-like                                                                    | <a href="#">Q53G44</a> | nonmod |
| IFI44L  | interferon-induced protein 44-like                                                                    | <a href="#">Q53G44</a> | nonmod |
| IFIH1   | interferon induced with helicase C domain 1                                                           | <a href="#">Q9BYX4</a> | nonmod |
| IFIH1   | interferon induced with helicase C domain 1                                                           | <a href="#">Q9BYX4</a> | nonmod |
| IFIT1   | interferon-induced protein with tetratricopeptide repeats 1                                           | <a href="#">P09914</a> | nonmod |
| IFIT2   | interferon-induced protein with tetratricopeptide repeats 2                                           | <a href="#">P09913</a> | nonmod |
| IFIT3   | interferon-induced protein with tetratricopeptide repeats 3                                           | <a href="#">Q14879</a> | nonmod |
| IFITM3  | interferon induced transmembrane protein 3 (1-8U)                                                     | <a href="#">Q01628</a> | nonmod |
| IGF2R   | insulin-like growth factor 2 receptor                                                                 | <a href="#">P11717</a> | nonmod |
| IGFBP6  | insulin-like growth factor binding protein 6                                                          | <a href="#">P24592</a> | nonmod |
| IGFBP6  | insulin-like growth factor binding protein 6                                                          | <a href="#">P24592</a> | nonmod |
| IKBKB   | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta                            | <a href="#">Q14920</a> | nonmod |
| IKBKB   | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta                            | <a href="#">Q14920</a> | nonmod |
| IL16    | interleukin 16 (lymphocyte chemoattractant factor)                                                    | <a href="#">Q14005</a> | nonmod |
| IL16    | interleukin 16 (lymphocyte chemoattractant factor)                                                    | <a href="#">Q14005</a> | nonmod |
| IL17RA  | interleukin 17 receptor A                                                                             | <a href="#">Q96F46</a> | nonmod |
| IL17RA  | interleukin 17 receptor A                                                                             | <a href="#">Q96F46</a> | nonmod |
| IL18    | interleukin 18 (interferon-gamma-inducing factor)                                                     | <a href="#">Q14116</a> | nonmod |
| IL1R2   | interleukin 1 receptor, type II                                                                       | <a href="#">P27930</a> | nonmod |
| IL1R2   | interleukin 1 receptor, type II                                                                       | <a href="#">P27930</a> | nonmod |
| IL1RAP  | interleukin 1 receptor accessory protein                                                              | <a href="#">Q9NPH3</a> | nonmod |
| IL6ST   | interleukin 6 signal transducer (gp130, oncostatin M receptor)                                        | <a href="#">P40189</a> | nonmod |
| ILF2    | interleukin enhancer binding factor 2, 45kDa                                                          | <a href="#">Q12905</a> | nonmod |
| ILF3    | interleukin enhancer binding factor 3, 90kDa                                                          | <a href="#">Q12906</a> | nonmod |
| IRAK1   | interleukin-1 receptor-associated kinase 1                                                            | <a href="#">P51617</a> | nonmod |
| IRAK1   | interleukin-1 receptor-associated kinase 1                                                            | <a href="#">P51617</a> | nonmod |
| IRAK4   | interleukin-1 receptor-associated kinase 4                                                            | <a href="#">Q9NWX3</a> | nonmod |
| IRF2    | interferon regulatory factor 2                                                                        | <a href="#">P14316</a> | nonmod |
| IRF6    | interferon regulatory factor 6                                                                        | <a href="#">Q14896</a> | nonmod |
| IRF6    | interferon regulatory factor 6                                                                        | <a href="#">Q14896</a> | nonmod |
| IRF7    | interferon regulatory factor 7                                                                        | <a href="#">Q92985</a> | nonmod |
| IRF9    | interferon regulatory factor 9                                                                        | <a href="#">Q00978</a> | nonmod |
| IRF9    | interferon regulatory factor 9                                                                        | <a href="#">Q00978</a> | nonmod |
| ISG20   | interferon stimulated exonuclease gene 20kDa                                                          | <a href="#">Q96AZ6</a> | nonmod |
| ISG20   | interferon stimulated exonuclease gene 20kDa                                                          | <a href="#">Q96AZ6</a> | nonmod |
| ITGAL   | integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) | <a href="#">P20701</a> | nonmod |
| ITGAL   | integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) | <a href="#">P20701</a> | nonmod |
| ITGB1   | integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)          | <a href="#">P05556</a> | nonmod |
| ITGB2   | integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)                                    | <a href="#">P05107</a> | nonmod |
| ITGB2   | integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)                                    | <a href="#">P05107</a> | nonmod |
| KARS    | lysyl-tRNA synthetase                                                                                 | <a href="#">Q15046</a> | nonmod |
| KRT1    | keratin 1                                                                                             | <a href="#">P04264</a> | nonmod |

|           |                                                                                           |                        |        |
|-----------|-------------------------------------------------------------------------------------------|------------------------|--------|
| KRT1      | keratin 1                                                                                 | <a href="#">P04264</a> | nonmod |
| LCP2      | lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)         | <a href="#">Q13094</a> | nonmod |
| LCP2      | lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)         | <a href="#">Q13094</a> | nonmod |
| LGALS1    | lectin, galactoside-binding, soluble, 1                                                   | <a href="#">P09382</a> | nonmod |
| LGALS3    | lectin, galactoside-binding, soluble, 3                                                   | <a href="#">P17931</a> | nonmod |
| LGALS3BP  | lectin, galactoside-binding, soluble, 3 binding protein                                   | <a href="#">Q08380</a> | nonmod |
| LTA4H     | leukotriene A4 hydrolase                                                                  | <a href="#">P09960</a> | nonmod |
| LTA4H     | leukotriene A4 hydrolase                                                                  | <a href="#">P09960</a> | nonmod |
| LTBP2     | latent transforming growth factor beta binding protein 2                                  | <a href="#">Q14767</a> | nonmod |
| LTBP2     | latent transforming growth factor beta binding protein 2                                  | <a href="#">Q14767</a> | nonmod |
| LYN       | v-yes-1 Yamaguchi sarcoma viral related oncogene homolog                                  | <a href="#">P07948</a> | nonmod |
| LYN       | v-yes-1 Yamaguchi sarcoma viral related oncogene homolog                                  | <a href="#">P07948</a> | nonmod |
| MAP3K7IP1 | mitogen-activated protein kinase kinase kinase 7 interacting protein 1                    | <a href="#">Q15750</a> | nonmod |
| MIF       | macrophage migration inhibitory factor (glycosylation-inhibiting factor)                  | <a href="#">P14174</a> | nonmod |
| MIF       | macrophage migration inhibitory factor (glycosylation-inhibiting factor)                  | <a href="#">P14174</a> | nonmod |
| MSH6      | mutS homolog 6 (E. coli)                                                                  | <a href="#">P52701</a> | nonmod |
| MSN       | moesin                                                                                    | <a href="#">P26038</a> | nonmod |
| MSR1      | macrophage scavenger receptor 1                                                           | <a href="#">P21757</a> | nonmod |
| MSR1      | macrophage scavenger receptor 1                                                           | <a href="#">P21757</a> | nonmod |
| MTIF2     | mitochondrial translational initiation factor 2                                           | <a href="#">P46199</a> | nonmod |
| MTIF2     | mitochondrial translational initiation factor 2                                           | <a href="#">P46199</a> | nonmod |
| MYD88     | myeloid differentiation primary response gene (88)                                        | <a href="#">Q99836</a> | nonmod |
| MYD88     | myeloid differentiation primary response gene (88)                                        | <a href="#">Q99836</a> | nonmod |
| NCF4      | neutrophil cytosolic factor 4, 40kDa                                                      | <a href="#">Q15080</a> | nonmod |
| NCF4      | neutrophil cytosolic factor 4, 40kDa                                                      | <a href="#">Q15080</a> | nonmod |
| NCK1      | NCK adaptor protein 1                                                                     | <a href="#">P16333</a> | nonmod |
| NCK1      | NCK adaptor protein 1                                                                     | <a href="#">P16333</a> | nonmod |
| NFKB1     | nuclear factor of kappa light polypeptide gene enhancer in B-cells 1                      | <a href="#">P19838</a> | nonmod |
| NFKB1     | nuclear factor of kappa light polypeptide gene enhancer in B-cells 1                      | <a href="#">P19838</a> | nonmod |
| NFKB2     | nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100)           | <a href="#">Q00653</a> | nonmod |
| NFKB2     | nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100)           | <a href="#">Q00653</a> | nonmod |
| NFKBIA    | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha       | <a href="#">P25963</a> | nonmod |
| NFKBIB    | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta        | <a href="#">Q15653</a> | nonmod |
| NFKBIB    | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta        | <a href="#">Q15653</a> | nonmod |
| NFKBIE    | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon     | <a href="#">Q00221</a> | nonmod |
| NFKBIE    | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon     | <a href="#">Q00221</a> | nonmod |
| NME1      | non-metastatic cells 1, protein (NM23A) expressed in                                      | <a href="#">P15531</a> | nonmod |
| NOTCH2    | Notch homolog 2 (Drosophila)                                                              | <a href="#">Q04721</a> | nonmod |
| NPEPPS    | aminopeptidase puromycin sensitive                                                        | <a href="#">P55786</a> | nonmod |
| NPM1      | nucleophosmin (nucleolar phosphoprotein B23, numatrin)                                    | <a href="#">P06748</a> | nonmod |
| NPM1      | nucleophosmin (nucleolar phosphoprotein B23, numatrin)                                    | <a href="#">P06748</a> | nonmod |
| OTUB1     | OTU domain, ubiquitin aldehyde binding 1                                                  | <a href="#">Q96FW1</a> | nonmod |
| PABPN1    | poly(A) binding protein, nuclear 1                                                        | <a href="#">Q86U42</a> |        |
| PABPN1    | poly(A) binding protein, nuclear 1                                                        | <a href="#">Q86U42</a> |        |
| PARP1     | poly (ADP-ribose) polymerase 1                                                            | <a href="#">P09874</a> | nonmod |
| PARP12    | poly (ADP-ribose) polymerase family, member 12                                            | <a href="#">Q9H0J9</a> | nonmod |
| PARP12    | poly (ADP-ribose) polymerase family, member 12                                            | <a href="#">Q9H0J9</a> | nonmod |
| PARP14    | poly (ADP-ribose) polymerase family, member 14                                            | <a href="#">Q460N5</a> | nonmod |
| PARP14    | poly (ADP-ribose) polymerase family, member 14                                            | <a href="#">Q460N5</a> | nonmod |
| PARP9     | poly (ADP-ribose) polymerase family, member 9                                             | <a href="#">Q8IXQ6</a> | nonmod |
| PARP9     | poly (ADP-ribose) polymerase family, member 9                                             | <a href="#">Q8IXQ6</a> | nonmod |
| PAWR      | PRKC, apoptosis, WT1, regulator                                                           | <a href="#">Q96I20</a> | nonmod |
| PCBP1     | poly(rC) binding protein 1                                                                | <a href="#">Q15365</a> | nonmod |
| PDCCD2L   | programmed cell death 2-like                                                              | <a href="#">Q9BRP1</a> | nonmod |
| PDCCD2L   | programmed cell death 2-like                                                              | <a href="#">Q9BRP1</a> | nonmod |
| PDCCD4    | programmed cell death 4 (neoplastic transformation inhibitor)                             | <a href="#">Q53EL6</a> | nonmod |
| PDCCD4    | programmed cell death 4 (neoplastic transformation inhibitor)                             | <a href="#">Q53EL6</a> | nonmod |
| PECAM1    | platelet/endothelial cell adhesion molecule                                               | <a href="#">P16284</a> | nonmod |
| PECAM1    | platelet/endothelial cell adhesion molecule                                               | <a href="#">P16284</a> | nonmod |
| PF4       | platelet factor 4                                                                         | <a href="#">P02776</a> | nonmod |
| PLCB1     | phospholipase C, beta 1 (phosphoinositide-specific)                                       | <a href="#">Q9NQ66</a> | nonmod |
| PML       | promyelocytic leukemia                                                                    | <a href="#">P29590</a> | nonmod |
| PML       | promyelocytic leukemia                                                                    | <a href="#">P29590</a> | nonmod |
| POLR3C    | polymerase (RNA) III (DNA directed) polypeptide C (62kD)                                  | <a href="#">Q9BUJ4</a> | nonmod |
| POLR3C    | polymerase (RNA) III (DNA directed) polypeptide C (62kD)                                  | <a href="#">Q9BUJ4</a> | nonmod |
| PRKCB     | protein kinase C, beta                                                                    | <a href="#">P05771</a> | nonmod |
| PSMA2     | proteasome (prosome, macropain) subunit, alpha type, 2                                    | <a href="#">P25787</a> | nonmod |
| PSMA2     | proteasome (prosome, macropain) subunit, alpha type, 2                                    | <a href="#">P25787</a> | nonmod |
| PSMA3     | proteasome (prosome, macropain) subunit, alpha type, 3                                    | <a href="#">P25788</a> | nonmod |
| PSMA3     | proteasome (prosome, macropain) subunit, alpha type, 3                                    | <a href="#">P25788</a> | nonmod |
| PSMB2     | proteasome (prosome, macropain) subunit, beta type, 2                                     | <a href="#">P49721</a> | nonmod |
| PSMB2     | proteasome (prosome, macropain) subunit, beta type, 2                                     | <a href="#">P49721</a> | nonmod |
| PSMB8     | proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) | <a href="#">P28062</a> | nonmod |
| PSMB8     | proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) | <a href="#">P28062</a> | nonmod |
| PSMB9     | proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2) | <a href="#">P28065</a> | nonmod |
| PSMB9     | proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2) | <a href="#">P28065</a> | nonmod |
| PSME1     | proteasome (prosome, macropain) activator subunit 1 (PA28 alpha)                          | <a href="#">Q06323</a> | nonmod |
| PSME2     | proteasome (prosome, macropain) activator subunit 2 (PA28 beta)                           | <a href="#">Q9UL46</a> | nonmod |
| PSME2     | proteasome (prosome, macropain) activator subunit 2 (PA28 beta)                           | <a href="#">Q9UL46</a> | nonmod |

|          |                                                                                                                  |                        |        |
|----------|------------------------------------------------------------------------------------------------------------------|------------------------|--------|
| PSPC1    | paraspeckle component 1                                                                                          | <a href="#">Q8WXF1</a> | nonmod |
| PTPN11   | protein tyrosine phosphatase, non-receptor type 11                                                               | <a href="#">Q06124</a> | nonmod |
| PTPN11   | protein tyrosine phosphatase, non-receptor type 11                                                               | <a href="#">Q06124</a> | nonmod |
| PTPN6    | protein tyrosine phosphatase, non-receptor type 6                                                                | <a href="#">P29350</a> | nonmod |
| PTPRC    | protein tyrosine phosphatase, receptor type, C                                                                   | <a href="#">P08575</a> | nonmod |
| PTPRC    | protein tyrosine phosphatase, receptor type, C                                                                   | <a href="#">P08575</a> | nonmod |
| RELA     | v-rel reticuloendotheliosis viral oncogene homolog A (avian)                                                     | <a href="#">Q04206</a> | nonmod |
| RELA     | v-rel reticuloendotheliosis viral oncogene homolog A (avian)                                                     | <a href="#">Q04206</a> | nonmod |
| RIPK1    | receptor (TNFRSF)-interacting serine-threonine kinase 1                                                          | <a href="#">Q13546</a> | nonmod |
| RIPK1    | receptor (TNFRSF)-interacting serine-threonine kinase 1                                                          | <a href="#">Q13546</a> | nonmod |
| RIPK2    | receptor-interacting serine-threonine kinase 2                                                                   | <a href="#">Q43353</a> | nonmod |
| RIPK2    | receptor-interacting serine-threonine kinase 2                                                                   | <a href="#">Q43353</a> | nonmod |
| RPS27A   | ribosomal protein S27a                                                                                           | <a href="#">P62979</a> | nonmod |
| S100A13  | S100 calcium binding protein A13                                                                                 | <a href="#">Q99584</a> | nonmod |
| S100A13  | S100 calcium binding protein A13                                                                                 | <a href="#">Q99584</a> | nonmod |
| S100A14  | S100 calcium binding protein A14                                                                                 | <a href="#">Q9HCY8</a> | nonmod |
| S100A8   | S100 calcium binding protein A8                                                                                  | <a href="#">P05109</a> | nonmod |
| S100A8   | S100 calcium binding protein A8                                                                                  | <a href="#">P05109</a> | nonmod |
| S100A9   | S100 calcium binding protein A9                                                                                  | <a href="#">P06702</a> | nonmod |
| S100A9   | S100 calcium binding protein A9                                                                                  | <a href="#">P06702</a> | nonmod |
| S100A9   | S100 calcium binding protein A9                                                                                  | <a href="#">P06702</a> | nonmod |
| SEMA4D   | sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4D | <a href="#">Q92854</a> | nonmod |
| SEMA4D   | sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4D | <a href="#">Q92854</a> | nonmod |
| SERPINB1 | serpin peptidase inhibitor, clade B (ovalbumin), member 1                                                        | <a href="#">P30740</a> | nonmod |
| SERPING1 | serpin peptidase inhibitor, clade G (C1 inhibitor), member 1                                                     | <a href="#">P05155</a> | nonmod |
| SERPING1 | serpin peptidase inhibitor, clade G (C1 inhibitor), member 1                                                     | <a href="#">P05155</a> | nonmod |
| SMAD1    | SMAD family member 1                                                                                             | <a href="#">Q15797</a> | nonmod |
| SMAD1    | SMAD family member 1                                                                                             | <a href="#">Q15797</a> | nonmod |
| SMAD2    | SMAD family member 2                                                                                             | <a href="#">Q15796</a> | nonmod |
| SMAD2    | SMAD family member 2                                                                                             | <a href="#">Q15796</a> | nonmod |
| SMAD3    | SMAD family member 3                                                                                             | <a href="#">P84022</a> | nonmod |
| SMAD3    | SMAD family member 3                                                                                             | <a href="#">P84022</a> | nonmod |
| SOD2     | superoxide dismutase 2, mitochondrial                                                                            | <a href="#">P04179</a> | nonmod |
| SOD2     | superoxide dismutase 2, mitochondrial                                                                            | <a href="#">P04179</a> | nonmod |
| SP100    | SP100 nuclear antigen                                                                                            | <a href="#">P23497</a> | nonmod |
| SP100    | SP100 nuclear antigen                                                                                            | <a href="#">P23497</a> | nonmod |
| SPP1     | secreted phosphoprotein 1                                                                                        | <a href="#">P10451</a> | nonmod |
| STAB1    | stabilin 1                                                                                                       | <a href="#">Q9NY15</a> | nonmod |
| STAB1    | stabilin 1                                                                                                       | <a href="#">Q9NY15</a> | nonmod |
| STAM2    | signal transducing adaptor molecule (SH3 domain and ITAM motif) 2                                                | <a href="#">Q75886</a> | nonmod |
| STAM2    | signal transducing adaptor molecule (SH3 domain and ITAM motif) 2                                                | <a href="#">Q75886</a> | nonmod |
| STAT1    | signal transducer and activator of transcription 1, 91kDa                                                        | <a href="#">P42224</a> | nonmod |
| STAT2    | signal transducer and activator of transcription 2, 113kDa                                                       | <a href="#">P52630</a> | nonmod |
| STAT2    | signal transducer and activator of transcription 2, 113kDa                                                       | <a href="#">P52630</a> | nonmod |
| STAT3    | signal transducer and activator of transcription 3 (acute-phase response factor)                                 | <a href="#">P40763</a> | nonmod |
| STAT5A   | signal transducer and activator of transcription 5A                                                              | <a href="#">P42229</a> | nonmod |
| STOML2   | stomatin (EPB72)-like 2                                                                                          | <a href="#">Q9UJZ1</a> | nonmod |
| SUMO1    | SMT3 suppressor of mif two 3 homolog 1 (S. cerevisiae)                                                           | <a href="#">P63165</a> | nonmod |
| TAP1     | transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)                                                      | <a href="#">Q03518</a> | nonmod |
| TCIRG1   | T-cell, immune regulator 1, ATPase, H+ transporting, lysosomal V0 subunit A3                                     | <a href="#">Q13488</a> | nonmod |
| TGFB1    | transforming growth factor, beta 1                                                                               | <a href="#">P01137</a> | nonmod |
| TGFB1    | transforming growth factor, beta 1                                                                               | <a href="#">P01137</a> | oM     |
| TGFB1    | transforming growth factor, beta-induced, 68kDa                                                                  | <a href="#">Q15582</a> | nonmod |
| TGFB1    | transforming growth factor, beta-induced, 68kDa                                                                  | <a href="#">Q15582</a> | nonmod |
| TGFBR3   | transforming growth factor, beta receptor III                                                                    | <a href="#">Q03167</a> | nonmod |
| TGFBR3   | transforming growth factor, beta receptor III                                                                    | <a href="#">Q03167</a> | nonmod |
| TGFBRAP1 | transforming growth factor, beta receptor associated protein 1                                                   | <a href="#">Q8WUH2</a> | nonmod |
| TGFBRAP1 | transforming growth factor, beta receptor associated protein 1                                                   | <a href="#">Q8WUH2</a> | nonmod |
| THY1     | Thy-1 cell surface antigen                                                                                       | <a href="#">P04216</a> | nonmod |
| THY1     | Thy-1 cell surface antigen                                                                                       | <a href="#">P04216</a> | nonmod |
| TIMP1    | TIMP metalloproteinase inhibitor 1                                                                               | <a href="#">P01033</a> | nonmod |
| TIMP1    | TIMP metalloproteinase inhibitor 1                                                                               | <a href="#">P01033</a> | nonmod |
| TLR2     | toll-like receptor 2                                                                                             | <a href="#">Q60603</a> | nonmod |
| TLR2     | toll-like receptor 2                                                                                             | <a href="#">Q60603</a> | nonmod |
| TLR3     | toll-like receptor 3                                                                                             | <a href="#">Q15455</a> | nonmod |
| TLR3     | toll-like receptor 3                                                                                             | <a href="#">Q15455</a> | nonmod |
| TNFAIP2  | tumor necrosis factor, alpha-induced protein 2                                                                   | <a href="#">Q03169</a> | nonmod |
| TNFAIP2  | tumor necrosis factor, alpha-induced protein 2                                                                   | <a href="#">Q03169</a> | nonmod |
| TNFAIP8  | tumor necrosis factor, alpha-induced protein 8                                                                   | <a href="#">Q95379</a> | nonmod |
| TNFAIP8  | tumor necrosis factor, alpha-induced protein 8                                                                   | <a href="#">Q95379</a> | nonmod |
| TNFSF10  | tumor necrosis factor (ligand) superfamily, member 10                                                            | <a href="#">P50591</a> | nonmod |
| TPD52    | tumor protein D52                                                                                                | <a href="#">P55327</a> | nonmod |
| TPD52    | tumor protein D52                                                                                                | <a href="#">P55327</a> | nonmod |
| TRAF2    | TNF receptor-associated factor 2                                                                                 | <a href="#">Q12933</a> | nonmod |
| TRAF2    | TNF receptor-associated factor 2                                                                                 | <a href="#">Q12933</a> | nonmod |
| TRIM28   | tripartite motif-containing 28                                                                                   | <a href="#">Q13263</a> | nonmod |
| TRIM56   | tripartite motif-containing 56                                                                                   | <a href="#">Q9BRZ2</a> | nonmod |
| TRIM56   | tripartite motif-containing 56                                                                                   | <a href="#">Q9BRZ2</a> | nonmod |
| TYK2     | tyrosine kinase 2                                                                                                | <a href="#">P29597</a> | nonmod |

|        |                                                                                                        |                        |        |
|--------|--------------------------------------------------------------------------------------------------------|------------------------|--------|
| TYK2   | tyrosine kinase 2                                                                                      | <a href="#">P29597</a> | nonmod |
| UBAP2L | ubiquitin associated protein 2-like                                                                    | <a href="#">Q14157</a> | nonmod |
| UBE2N  | ubiquitin-conjugating enzyme E2N (UBC13 homolog, yeast)                                                | <a href="#">P61088</a> | nonmod |
| VCAM1  | vascular cell adhesion molecule 1                                                                      | <a href="#">P19320</a> | nonmod |
| VCAM1  | vascular cell adhesion molecule 1                                                                      | <a href="#">P19320</a> | nonmod |
| VPS35  | vacuolar protein sorting 35 homolog ( <i>S. cerevisiae</i> )                                           | <a href="#">Q96QK1</a> | nonmod |
| WAS    | Wiskott-Aldrich syndrome (eczema-thrombocytopenia)                                                     | <a href="#">P42768</a> | nonmod |
| WAS    | Wiskott-Aldrich syndrome (eczema-thrombocytopenia)                                                     | <a href="#">P42768</a> | nonmod |
| XRCC5  | X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break rejoining) | <a href="#">P13010</a> | nonmod |