**WebGestalt-generated significant ontologies for hypomethylated CpG-sites in CAP**

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| **biological process inflammatory response**  **GO:0006954**  **C=442;O=17;E=4.38;R=3.88;rawP=1.58e-06;adjP=0.0016** | | | |
| Entrez ID | Gene symbol | | Description |
| 1269 | *CNR2* | | cannabinoid receptor 2 (macrophage) |
| 6347 | *CCL2* | | chemokine (C-C motif) ligand 2 |
| 3568 | *IL5RA* | | interleukin 5 receptor, alpha |
| 6279 | *S100A8* | | S100 calcium binding protein A8 |
| 1672 | *DEFB1* | | defensin, beta 1 |
| 2532 | *DARC* | | Duffy blood group, chemokine receptor |
| 5199 | *CFP* | | complement factor properdin |
| 6696 | *SPP1* | | secreted phosphoprotein 1 |
| 9447 | *AIM2* | | absent in melanoma 2 |
| 1232 | *CCR3* | | chemokine (C-C motif) receptor 3 |
| 9332 | *CD163* | | CD163 molecule |
| 7099 | *TLR4* | | toll-like receptor 4 |
| 27035 | *NOX1* | | NADPH oxidase 1 |
| 6850 | *SYK* | | spleen tyrosine kinase |
| 940 | *CD28* | | CD28 molecule |
| 3428 | *IFI16* | | interferon, gamma-inducible protein 16 |
| 140 | *ADORA3* | | adenosine A3 receptor |
| **biological process defense response to bacterium**  **GO:0042742**  **C=108;O=8;E=1.07;R=7.47;rawP=1.14e-05;adjP=0.0030** | | | |
| Entrez ID | Gene symbol | | Description |
| 6037 | *RNASE3* | | ribonuclease, RNase A family, 3 |
| 124912 | *SPACA3* | | sperm acrosome associated 3 |
| 6279 | *S100A8* | | S100 calcium binding protein A8 |
| 944 | *TNFSF8* | | tumor necrosis factor (ligand) superfamily, member 8 |
| 1672 | *DEFB1* | | defensin, beta 1 |
| 7099 | *TLR4* | | toll-like receptor 4 |
| 5199 | *CFP* | | complement factor properdin |
| 6850 | *SYK* | | spleen tyrosine kinase |
| **biological process embryonic skeletal system morphogenesis**  **GO:0048704**  **C=77;O=7;E=0.76;R=9.16;rawP=1.07e-05;adjP=0.0030** | | | |
| Entrez ID | | Gene symbol | Description |
| 3216 | | *HOXB6* | homeobox B6 |
| 3204 | | *HOXA7* | homeobox A7 |
| 3232 | | *HOXD3* | homeobox D3 |
| 3233 | | *HOXD4* | homeobox D4 |
| 60529 | | *ALX4* | ALX homeobox 4 |
| 3215 | | *HOXB5* | homeobox B5 |
| 3200 | | *HOXA3* | homeobox A3 |
| **biological process embryonic skeletal system development**  **GO:0048706 C=101;O=8;E=1.00;R=7.99;rawP=6.91e-06;adjP=0.0030** | | | |
| Entrez ID | | Gene symbol | Description |
| 3204 | | *HOXA7* | homeobox A7 |
| 3232 | | *HOXD3* | homeobox D3 |
| 3233 | | *HOXD4* | homeobox D4 |
| 3222 | | *HOXC5* | homeobox C5 |
| 60529 | | *ALX4* | ALX homeobox 4 |
| 3200 | | *HOXA3* | homeobox A3 |
| 3216 | | *HOXB6* | homeobox B6 |
| 3215 | | *HOXB5* | homeobox B5 |
| **biological process defense response**  **GO:0006952**  **C=975;O=24;E=9.67;R=2.48;rawP=2.49e-05;adjP=0.0052** | | | |
| Entrez ID | | Gene symbol | Description |
| 1269 | | *CNR2* | cannabinoid receptor 2 (macrophage) |
| 6037 | | *RNASE3* | ribonuclease, RNase A family, 3 |
| 6347 | | *CCL2* | chemokine (C-C motif) ligand 2 |
| 3568 | | *IL5RA* | interleukin 5 receptor, alpha |
| 3430 | | *IFI35* | interferon-induced protein 35 |
| 6279 | | *S100A8* | S100 calcium binding protein A8 |
| 1672 | | *DEFB1* | defensin, beta 1 |
| 944 | | *TNFSF8* | tumor necrosis factor (ligand) superfamily, member 8 |
| 5199 | | *CFP* | complement factor properdin |
| 2532 | | *DARC* | Duffy blood group, chemokine receptor |
| 6696 | | *SPP1* | secreted phosphoprotein 1 |
| 5696 | | *PSMB8* | proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) |
| 9447 | | *AIM2* | absent in melanoma 2 |
| 1232 | | *CCR3* | chemokine (C-C motif) receptor 3 |
| 124912 | | *SPACA3* | sperm acrosome associated 3 |
| 11262 | | *SP140* | SP140 nuclear body protein |
| 9332 | | *CD163* | CD163 molecule |
| 3687 | | *ITGAX* | integrin, alpha X (complement component 3 receptor 4 subunit) |
| 7099 | | *TLR4* | toll-like receptor 4 |
| 940 | | *CD28* | CD28 molecule |
| 6850 | | *SYK* | spleen tyrosine kinase |
| 27035 | | *NOX1* | NADPH oxidase 1 |
| 3428 | | *IFI16* | interferon, gamma-inducible protein 16 |
| 140 | | *ADORA3* | adenosine A3 receptor |
| **biological process response to other organism**  **GO:0051707**  **C=509;O=16;E=5.05;R=3.17;rawP=4.07e-05;adjP=0.0070** | | | |
| Entrez ID | | Gene symbol | Description |
| 1269 | | *CNR2* | cannabinoid receptor 2 (macrophage) |
| 6037 | | *RNASE3* | ribonuclease, RNase A family, 3 |
| 9447 | | *AIM2* | absent in melanoma 2 |
| 6347 | | *CCL2* | chemokine (C-C motif) ligand 2 |
| 124912 | | *SPACA3* | sperm acrosome associated 3 |
| 356 | | *FASLG* | Fas ligand (TNF superfamily, member 6) |
| 6279 | | *S100A8* | S100 calcium binding protein A8 |
| 3430 | | *IFI35* | interferon-induced protein 35 |
| 1672 | | *DEFB1* | defensin, beta 1 |
| 944 | | *TNFSF8* | tumor necrosis factor (ligand) superfamily, member 8 |
| 3687 | | *ITGAX* | integrin, alpha X (complement component 3 receptor 4 subunit) |
| 7099 | | *TLR4* | toll-like receptor 4 |
| 940 | | *CD28* | CD28 molecule |
| 6850 | | *SYK* | spleen tyrosine kinase |
| 5199 | | *CFP* | complement factor properdin |
| 3428 | | *IFI16* | interferon, gamma-inducible protein 16 |
| **biological process response to biotic stimulus**  **GO:0009607**  **C=531;O=16;E=5.27;R=3.04;rawP=6.75e-05;adjP=0.0082** | | | |
| Entrez ID | | Gene symbol | Description |
| 1269 | | *CNR2* | cannabinoid receptor 2 (macrophage) |
| 6037 | | *RNASE3* | ribonuclease, RNase A family, 3 |
| 9447 | | *AIM2* | absent in melanoma 2 |
| 6347 | | *CCL2* | chemokine (C-C motif) ligand 2 |
| 124912 | | *SPACA3* | sperm acrosome associated 3 |
| 356 | | *FASLG* | Fas ligand (TNF superfamily, member 6) |
| 6279 | | *S100A8* | S100 calcium binding protein A8 |
| 3430 | | *IFI35* | interferon-induced protein 35 |
| 1672 | | *DEFB1* | defensin, beta 1 |
| 944 | | *TNFSF8* | tumor necrosis factor (ligand) superfamily, member 8 |
| 3687 | | *ITGAX* | integrin, alpha X (complement component 3 receptor 4 subunit) |
| 7099 | | *TLR4* | toll-like receptor 4 |
| 940 | | *CD28* | CD28 molecule |
| 6850 | | *SYK* | spleen tyrosine kinase |
| 5199 | | *CFP* | complement factor properdin |
| 3428 | | *IFI16* | interferon, gamma-inducible protein 16 |
| **biological process immune system process**  **GO:0002376**  **C=1617;O=32;E=16.04;R=2.00;rawP=7.11e-05;adjP=0.0082** | | | |
| Entrez ID | | Gene symbol | Description |
| 3204 | | *HOXA7* | homeobox A7 |
| 6347 | | *CCL2* | chemokine (C-C motif) ligand 2 |
| 3568 | | *IL5RA* | interleukin 5 receptor, alpha |
| 3430 | | *IFI35* | interferon-induced protein 35 |
| 6279 | | *S100A8* | S100 calcium binding protein A8 |
| 6943 | | *TCF21* | transcription factor 21 |
| 944 | | *TNFSF8* | tumor necrosis factor (ligand) superfamily, member 8 |
| 5133 | | *PDCD1* | programmed cell death 1 |
| 6696 | | *SPP1* | secreted phosphoprotein 1 |
| 5696 | | *PSMB8* | proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) |
| 9447 | | *AIM2* | absent in melanoma 2 |
| 79679 | | *VTCN1* | V-set domain containing T cell activation inhibitor 1 |
| 915 | | *CD3D* | CD3d molecule, delta (CD3-TCR complex) |
| 4237 | | *MFAP2* | microfibrillar-associated protein 2 |
| 3687 | | *ITGAX* | integrin, alpha X (complement component 3 receptor 4 subunit) |
| 7099 | | *TLR4* | toll-like receptor 4 |
| 6850 | | *SYK* | spleen tyrosine kinase |
| 140 | | *ADORA3* | adenosine A3 receptor |
| 1269 | | *CNR2* | cannabinoid receptor 2 (macrophage) |
| 8530 | | *CST7* | cystatin F (leukocystatin) |
| 397 | | *ARHGDIB* | Rho GDP dissociation inhibitor (GDI) beta |
| 53347 | | *UBASH3A* | ubiquitin associated and SH3 domain containing A |
| 6318 | | *SERPINB4* | serpin peptidase inhibitor, clade B (ovalbumin), member 4 |
| 1672 | | *DEFB1* | defensin, beta 1 |
| 5199 | | *CFP* | complement factor properdin |
| 951 | | *CD37* | CD37 molecule |
| 124912 | | *SPACA3* | sperm acrosome associated 3 |
| 3200 | | *HOXA3* | homeobox A3 |
| 356 | | *FASLG* | Fas ligand (TNF superfamily, member 6) |
| 861 | | *RUNX1* | runt-related transcription factor 1 |
| 940 | | *CD28* | CD28 molecule |
| 3428 | | *IFI16* | interferon, gamma-inducible protein 16 |
| **biological process immune response**  **GO:0006955**  **C=958;O=23;E=9.50;R=2.42;rawP=5.61e-05;adjP=0.0082** | | | |
| Entrez ID | | Gene symbol | Description |
| 1269 | | *CNR2* | cannabinoid receptor 2 (macrophage) |
| 6347 | | *CCL2* | chemokine (C-C motif) ligand 2 |
| 8530 | | *CST7* | cystatin F (leukocystatin) |
| 3568 | | *IL5RA* | interleukin 5 receptor, alpha |
| 6279 | | *S100A8* | S100 calcium binding protein A8 |
| 3430 | | *IFI35* | interferon-induced protein 35 |
| 397 | | *ARHGDIB* | Rho GDP dissociation inhibitor (GDI) beta |
| 53347 | | *UBASH3A* | ubiquitin associated and SH3 domain containing A |
| 1672 | | *DEFB1* | defensin, beta 1 |
| 944 | | *TNFSF8* | tumor necrosis factor (ligand) superfamily, member 8 |
| 6318 | | *SERPINB4* | serpin peptidase inhibitor, clade B (ovalbumin), member 4 |
| 5199 | | *CFP* | complement factor properdin |
| 951 | | *CD37* | CD37 molecule |
| 5133 | | *PDCD1* | programmed cell death 1 |
| 5696 | | *PSMB8* | proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) |
| 9447 | | *AIM2* | absent in melanoma 2 |
| 356 | | *FASLG* | Fas ligand (TNF superfamily, member 6) |
| 915 | | *CD3D* | CD3d molecule, delta (CD3-TCR complex) |
| 7099 | | *TLR4* | toll-like receptor 4 |
| 940 | | *CD28* | CD28 molecule |
| 6850 | | *SYK* | spleen tyrosine kinase |
| 3428 | | *IFI16* | interferon, gamma-inducible protein 16 |
| 140 | | *ADORA3* | adenosine A3 receptor |
| **biological process anterior/posterior pattern specification**  **GO:0009952**  **C=191;O=9;E=1.89;R=4.75;rawP=0.0001;adjP=0.0104** | | | |
| Entrez ID | | Gene symbol | Description |
| 3204 | | *HOXA7* | homeobox A7 |
| 3232 | | *HOXD3* | homeobox D3 |
| 7273 | | *TTN* | titin |
| 3233 | | *HOXD4* | homeobox D4 |
| 3222 | | *HOXC5* | homeobox C5 |
| 60529 | | *ALX4* | ALX homeobox 4 |
| 3200 | | *HOXA3* | homeobox A3 |
| 3216 | | *HOXB6* | homeobox B6 |
| 3215 | | *HOXB5* | homeobox B5 |