**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 |