Supplementary table 7. Pathway analysis of top differentially methylated positions (GO ontology) among migrants compared to non-migrants.

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| --- | --- | --- | --- | --- | --- | --- |
| **PATHWAY** | **ONTOLOGY** | **TERM** | **N** | **DE** | **P.DE** | **FDR** |
| GO:0043303 | BP | mast cell degranulation | 44 | 2 | 0.00019 | 1 |
| GO:0002279 | BP | mast cell activation involved in immune response | 45 | 2 | 0.00020 | 1 |
| GO:0002448 | BP | mast cell mediated immunity | 46 | 2 | 0.00022 | 1 |
| GO:0045576 | BP | mast cell activation | 57 | 2 | 0.00028 | 1 |
| GO:0032418 | BP | lysosome localization | 70 | 2 | 0.00054 | 1 |
| GO:0016575 | BP | histone deacetylation | 72 | 2 | 0.00105 | 1 |
| GO:0017053 | CC | transcription repressor complex | 71 | 2 | 0.00137 | 1 |
| GO:0046811 | MF | histone deacetylase inhibitor activity | 2 | 1 | 0.00143 | 1 |
| GO:0006476 | BP | protein deacetylation | 88 | 2 | 0.00151 | 1 |
| GO:0035601 | BP | protein deacylation | 98 | 2 | 0.00160 | 1 |
| GO:0060332 | BP | positive regulation of response to interferon-gamma | 6 | 1 | 0.00167 | 1 |
| GO:0060335 | BP | positive regulation of interferon-gamma-mediated signaling pathway | 6 | 1 | 0.00167 | 1 |
| GO:0098732 | BP | macromolecule deacylation | 102 | 2 | 0.00176 | 1 |
| GO:0070033 | CC | synaptobrevin 2-SNAP-25-syntaxin-1a-complexin II complex | 3 | 1 | 0.00267 | 1 |
| GO:0031064 | BP | negative regulation of histone deacetylation | 7 | 1 | 0.00270 | 1 |
| GO:0070667 | BP | negative regulation of mast cell proliferation | 3 | 1 | 0.00278 | 1 |
| GO:2000670 | BP | positive regulation of dendritic cell apoptotic process | 4 | 1 | 0.00278 | 1 |
| GO:0035033 | MF | histone deacetylase regulator activity | 4 | 1 | 0.00287 | 1 |
| GO:0045345 | BP | positive regulation of MHC class I biosynthetic process | 5 | 1 | 0.00289 | 1 |
| GO:0060349 | BP | bone morphogenesis | 93 | 2 | 0.00291 | 1 |

N= number of genes in the GO or KEGG term

DE=number of genes that are differentially methylated

P.DE=p-value for over-representation of the GO or KEGG term

FDR=False discovery rate