**Supplemental Tables**

**Supplemental Table 1.** Primary and secondary antibodies for immunofluorescent staining and Western blot.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Concentration** | **Source** | **Company** |
| Anti-GLUT1 antibody | IF, 1:1000;  WB, 1:2500 | Mouse monoclonal | Abcam, Cambridge, UK |
| Anti-BRP44L antibody | IF, 1:200;  WB, 1:250 | Rabbit polyclonal | Novus Biologicals, Abingdon, UK |
| Anti-PEDF antibody | IF, 1:200;  WB, 1:500 | Rabbit polyclonal | Abcam, Cambridge, UK |
| Anti-p-Akt antibody | IF, 1:400;  WB, 1:2000 | Rabbit monoclonal | Cell signaling Technology, London, UK |
| Anti-Akt antibody | IF, 1:400;  WB, 1:1000 | Rabbit monoclonal | Cell signaling Technology, London, UK |
| Anti-p-Erk1/2 antibody | IF, 1:200;  WB, 1:2000 | Rabbit monoclonal | Cell signaling Technology, London, UK |
| Anti-Erk1/2 antibody | IF, 1:200;  WB, 1:1000 | Rabbit polyclonal | Cell signaling Technology, London, UK |
| Anti-HIF-1α antibody | IF, 1:200;  WB, 1:500 | Rabbit polyclonal | Novus Biologicals, Abingdon, UK |
| Anti-GAPDH antibody | WB, 1:20000 | Mouse monoclonal | Merck, Hertfordshire, UK |
| Anti-rabbit IgG H&L (Cy3) antibody | IF, 1:1000 | Goat polyclonal | Abcam, Cambridge, UK |
| Anti-mouse IgG H&L (Cy3) antibody | IF, 1:1000 | Goat polyclonal | Abcam, Cambridge, UK |
| Anti-rabbit IgG, HRP-linked antibody | WB, 1:1000 | Horse | Cell signaling Technology, London, UK |
| Anti-mouse IgG, HRP-linked antibody | WB, 1:1000 | Horse | Cell signaling Technology, London, UK |

**Abbreviations:** IF, immunofluorescence; WB, western blotting.

**Supplemental Table 2.** Summary of primers for qRT-PCR.

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***CXCR4*** | ***CXCL12*** | ***GAPDH*** |
| **Forward primer sequences** | 5’-CTGGCCTTCATCAGTCTGGA-3’ | 5’-TGAAGGCTTCTCTCTGTGGG-3’ | 5’-TTGGTATCGTGGAAGGACTC-3’ |
| **Reverse primer sequences** | 5’-TCATCTGCCTCACTGACGTT-3’ | 5’-AGAACGTGGAGGATGTGGAG-3’ | 5’-ACAGTCTTCTGGGTGGCAGT-3’ |
| **GenBank/EMBL accession No.** | NM\_003467.2 | NM\_001277990.1 | NM\_001357943.2 |
| **Nucleotide No.** | 474-621 | 405-579 | 525-566 |
| **r2** | 0.96304 | 0.99909 | 0.99502 |
| **Efficiency** | 1.06 | 0.96 | 1.02 |

**Supplemental Table 3.** Summary of the parameters of the orthogonal projections to latent structures discriminant analysis (O-PLS-DA) models.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **O-PLS-DA statistical parameters** | | | |
| **Model** | **Type** | **R2X** | **R2Y** | **Q2Y** | **Permutation *P* value** |
| A549  (C *vs.* P) | Cell | 72.04% | 73.28% | 0.60 | 0.01 |
| Media | 51.52% | 79.86% | 0.51 | 0.02 |
| H4  (C *vs.* P) | Cell | 42.45% | 73.44% | 0.14 | 0.13 |
| Media | 98.31% | 61.60% | 0.02 | 0.49 |

The models are based on the cell extract and media spectral data of A549 and H4 cell lines comparing control and propofol treatment groups. Permutation p values were derived from 100 permutes (n = 10).

**Abbreviations:** C, control group; P, propofol group.

**Supplemental Table 4.** Summary of the metabolites that are present in A549 cells.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Metabolites** | **δ1H** | **Model type** | **r** | **p** | **q** |
| Acetate | 1.92 (s) | Cell | -0.79 | 3.04E-05 | 8.56E-03 |
| Formate | 8.46 (s) | Cell | -0.76 | 1.02E-04 | 1.12E-02 |
| Glutamate | 2.07 (m); 2.12 (m); 2.36 (m); 3.77 (m) | Cell | 0.82 | 1.20E-05 | 8.56E-03 |
| Glycine | 3.56 (s) | Cell | 0.76 | 9.69E-05 | 1.11E-02 |
| Fatty acids | 0.88 (m); 1.28 (m); 1.58 (m); 2.04 (m); 2.25 (m) | Media | 0.93 | 5.68E-09 | 1.63E-06 |
| Glycerol | 3.55 (m); 3.64 (m); 3.78 (m) | Media | 0.99 | 3.09E-17 | 1.62E-13 |
| Isoleucine | 0.94 (t); 1.01 (d); 1.27 (m); 1.48 (m); 3.67 (m) | Media | 0.99 | 8.20E-18 | 8.69E-14 |
| Isopropanol | 1.18 (dd); 4.03 (m) | Media | -0.78 | 7.38E-05 | 1.25E-03 |
| Lactate | 1.33 (d); 4.11 (q) | Media | 0.86 | 3.07E-06 | 8.74E-05 |
| Leucine | 0.96 (d); 0.97 (d); 1.69 (m); 1.71 (m); 3.74 (t) | Media | 0.89 | 3.45E-07 | 2.17E-05 |
| Pyruvate | 2.38 (s) | Media | -0.92 | 3.76E-08 | 5.39E-06 |
| Valine | 0.99 (d); 1.04 (d); 2.27 (m); 3.61 (d) | Media | 0.70 | 8.06E-04 | 9.61E-03 |

For each model, "+" indicates a higher correlation in propofol treated group, whereas "-" indicates a higher correlation in control group. The symbol r represents the correlation coefficient values; p represents significance level based on two-tailed heteroscedastic t-test; q is corrected values using Benjamini-Hochberg correction.

**Abbreviations:** s, singlets; d, doublets; dd, double of doublets; t, triplets; q, quartets; m, multiplets.

**Supplemental Table 5.** Summary of tumor metastasis related genes that are altered by propofol administration.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gene symbol** | **Gene title** | **Comment** |
| **Upregulated genes** | APC | Adenomatous polyposis coli | Tumor suppression gene; the loss function of it activates Wnt pathway |
| FAT1 | FAT tumor suppressor homolog 1 | Tumor suppression gene; it is involved in tumor suppression and planar cell polarity |
| MTSS1 | Metastasis suppressor I-BAR domain containing 1 | Tumor suppression gene; the downregulation of it is associated with different stages of tumor progression |
| NME1/NME4 | NME/NM23 nucleoside diphosphate kinase 1/4 | Tumor suppression genes |
| NR4A3 | Nuclear receptor subfamily 4 group A member 3 | Tumor suppression gene; it encodes an intracellular transcription factor |
| RB1 | Retinoblastoma susceptibility 1 | Tumor suppression gene; it encodes a tumor suppressor protein retinoblastoma protein (pRB) |
| SYK | Spleen tyrosine kinase | Tumor suppression gene; it is involved in immune cell signaling |
| **Downregulated genes** | CST7 | Cystatin 7 | Tumor promotion gene; it encodes a glycosylated cysteine protease inhibitor |
| CTBP1 | C-terminal binding protein 1 | Tumor promotion gene; it encodes CtBP1 protein, which binds to DNA-binding transcriptional repressors |
| CTSK | Cathepsin K | Tumor promotion gene; it encodes a lysosomal cysteine protease |
| CXCL12 | C-X-C motif chemokine 12 | Tumor promotion gene |
| CXCR4 | C-X-C chemokine receptor type 4 | Tumor promotion gene; it encodes the receptor of CXCL12 protein |
| VEGFA | Vascular endothelial growth factor A | Tumor promotion gene; it is involved in angiogenesis |