**Supplementary file 1 - Table X.A. Layout of GeneQuerry™ qPCR Array inflammation plate**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| **A** | *β-actin* | GCSF | GM-CSF | ICAM-1 | IFN-γ | I-309 | *β-actin* | GCSF | GM-CSF | ICAM-1 | IFN-γ | I-309 |
| **B** | *GAPDH* | IL-12 p40 | IL-12 p70 | MCP-2 | M-CSF | MIG | *GAPDH* | IL-12 p40 | IL-12 p70 | MCP-2 | M-CSF | MIG |
| **C** | *LHDA* | EOTAXIN | EOTAXIN-2 | IL-1b | IL-2 | IL-3 | *LHDA* | EOTAXIN | EOTAXIN-2 | IL-1b | IL-2 | IL-3 |
| **D** | *NONO* | IL-16 | IL-17 | IP-10 | MCP-1 | RANTES | *NONO* | IL-16 | IL-17 | IP-10 | MCP-1 | RANTES |
| **E** | *PPIH* | IL-1α | IL-7 | IL-8 | IL-10 | IL-11 | *PPIH* | IL-1α | IL-7 | IL-8 | IL-10 | IL-11 |
| **F** | *GDC* | MIP-1α | MIP-1β | MIP-1δ | PDGF-BB | TIMP-2 | *GDC* | MIP-1α | MIP-1β | MIP-1δ | PDGF-BB | TIMP-2 |
| **G** | *PPC* | IL-4 | IL-6 | IL-6sR | IL-13 | IL-15 | *PPC* | IL-4 | IL-6 | IL-6sR | IL-13 | IL-15 |
| **H** | *NTC* | TGF-β1 | TNF-α | TNF-β | s TNF RI | s TNF RII | *NTC* | TGF-β1 | TNF-α | TNF-β | s TNF RI | s TNF RII |

**Supplementary file 2 -Table X.B. Layout of GeneQuerry™ qPCR Array signalling kinases plate**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| **A** | *β-actin* | p38α | Akt2 | HSP27 | *β-actin* | p38α | Akt2 | HSP27 | *β-actin* | p38α | Akt2 | HSP27 |
| **B** | *GAPDH* | p38δ | Akt3 | MKK3 | *GAPDH* | p38δ | Akt3 | MKK3 | *GAPDH* | p38δ | Akt3 | MKK3 |
| **C** | *LHDA* | JNK1 | p70S6k | MKK6 | *LHDA* | JNK1 | p70S6k | MKK6 | *LHDA* | JNK1 | p70S6k | MKK6 |
| **D** | *NONO* | JNK2 | TOR | MSK2 | *NONO* | JNK2 | TOR | MSK2 | *NONO* | JNK2 | TOR | MSK2 |
| **E** | *PPIH* | ERK1 | CREB | p53 | *PPIH* | ERK1 | CREB | p53 | *PPIH* | ERK1 | CREB | p53 |
| **F** | *GDC* | ERK2 | GSK-3α/β | RSK1 | *GDC* | ERK2 | GSK-3α/β | RSK1 | *GDC* | ERK2 | GSK-3α/β | RSK1 |
| **G** | *PPC* | Akt1 | GSK-3β | RSK2 | *PPC* | Akt1 | GSK-3β | RSK2 | *PPC* | Akt1 | GSK-3β | RSK2 |
| **H** | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* | *NTC* |

**Supplementary file 2 – Table XX. Oligonucleotide primers used for qPCR amplification**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Accesion no** | **Gene** | **Species** | **Primer orientation** | **Primer sequence** | **Primer size (bp)** | **Tm** | **Amplicon size (bp)** | **Reference** |
| 1 | NM\_001165412.1 | NF-*k*B1 | human | Fw | ACTGTGAGGATGGGATCTGC | 20 | 59 | 165 | (1) |
| Rv | GCACCAAGAGTCCAGGATTA | 20 | 57 |
| 2 | NM\_001243984.1 | RELA | human | Fw | GGGCCTTGCTTGGCAAC | 17 | 60 | 101 | (2) |
| Rv | CACAGGTATGCCCTGGTTCAG | 21 | 61 |
| 3 | NM\_001293164.1 | Nrf2 | human | Fw | CTACTCGTGTGGGACAGCAA | 20 | 60 | 143 | (3) |
| Rv | AGCAGACTCCAGGTCTTCCA | 20 | 60 |
| 4 | NM\_001621.4 | AHR | human | Fw | CTTAGGCTCAGCGTCAGTTAC | 21 | 60 | 79 | (4) |
| Rv | CGTTTCTTTCAGTAGGGGAGGAT | 23 | 61 |
| 5 | NM\_000104.3 | CYP1B1 | human | Fw | AAGTTCTTGAGGCACTGCGAA | 21 | 62 | 144 | (4) |
| Rv | GGCCGGTACGTTCTCCAAAT | 20 | 62 |
| 6 | NM\_001319217.1 | CYP1A1 | human | Fw | ACATGCTGACCCTGGGAAAG | 20 | 60 | 94 | (5) |
| Rv | GGTGTGGAGCCAATTCGGAT | 20 | 60 |
| 7 | NM\_001127891.1 | MMP-2 | human | Fw | GGCAGACATCATGATCAACT | 20 | 55 | 116 | (6) |
| Rv | TGCTGTCATAGGATGTG | 17 | 50 |
| 8 | NM\_004994.2 | MMP-9 | human | Fw | TTGACAGCGACAAGAAGTGG | 20 | 58 | 134 | (6) |
| Rv | GTACATAGGGTACATGAGCG | 20 | 55 |
| 9 | NM\_003254.2 | TIMP-1 | human | Fw | CACCCACAGACGGCCTTCT | 19 | 61 | 67 | (7) |
| Rv | CTTCTGGTGTCCGCACGAA | 19 | 60 |
| 10 | NM\_000584.3 | IL-18 | human | Fw | ACACTGCGCCAACACAGAAATTA | 23 | 61 | 185 | (8) |
| Rv | TTTGCTTGAAGTTTCACTGGCATC | 24 | 60 |
| 11 | NM\_004048.2 | β2 microglobulin | human | Fw | GTGCTCGCGCTACTCTCTC | 19 | 60 | 150 | (9) |
| Rv | GTCAACTTCAATGTCGGAT | 19 | 53 |
| 12 | NM\_005218.3 | defensin, β1 | human | Fw | CTCTGTCAGCTCAGCCTC | 18 | 56 | 179 | (10) |
| Rv | CTTGCAGCACTTGGCCTTCCC | 21 | 64 |
| 13 | NM\_001101.3 | β - actin | human | Fw | CCTGGCACCCAGCACAAT | 18 | 60 | 70 | (11) |
| Rv | GCCGATCCACACGGAGTACT | 20 | 62 |
| 14 | NM\_002046.3 | GAPDH | human | Fw | TGTGGTCATGAGTCCTTCCA | 20 | 53 | 136 | (12) |
| Rv | CATGGGTGTGAACCATGAGA | 20 | 53 |

**Supplementary file 4 -Table XXX.** **List and classification of antibodies spotted on the Inflammation Human Membrane Antibody array membrane**

|  |  |  |
| --- | --- | --- |
| **Functional classification** | **Protein Name** | **Protein description** |
| **Chemokines** | EOTAXIN | Eosinophil chemotactic protein |
| EOTAXIN-2 | Eosinophil chemotactic protein-2 |
| I-309 | T lymphocyte-secreted protein I-309; chemokine (C-C motif) ligand 1 |
| IP-10 | Interferon gamma-induced protein 10; C-X-C motif chemokine 10(CXCL10) |
| MCP-1 | Monocyte chemoattractant protein 1; chemokine (C-C motif) ligand 2(CCL2), |
| MCP-2 | Monocyte chemoattractant protein 2; Chemokine (C-C motif) ligand 8(CCL8), |
| MIG | Monokine induced by interferon-gamma; Chemokine (C-X-C motif) ligand 9 (CXCL9) |
| MIP-1α | Macrophage inflammatory protein 1-alpha; Chemokine (C-C motif) ligand 3 (CCL3) |
| MIP-1β | Macrophage inflammatory protein-1β; Chemokine (C-C motif) ligand 4, CCL4 |
| MIP-1δ | Macrophage inflammatory protein-1 delta; Chemokine (C-C motif) ligand 15 (CCL15) |
| RANTES | Regulated on Activation, Normal T cell Expressed and Secreted; Chemokine (C-C motif) ligand 5 (CCL5) |
| **Cytokines** | IFN-γ | Interferon gamma |
| IL-1α | Interleukin-1 alpha |
| IL-1β | Interleukin-1 beta |
| IL-2 | Interleukin-2 |
| IL-3 | Interleukin-3 |
| IL-4 | Interleukin-4 |
| IL-6 | Interleukin-6 |
| IL-7 | Interleukin-7 |
| IL-8 | Interleukin-8 |
| IL-10 | Interleukin-10 |
| IL-11 | Interleukin-11 |
| IL-12 p40 | Subunit beta of interleukin 12; interleukin-12 subunit p40 |
| IL-12 p70 | Interleukin 12 heterodimer |
| IL-13 | Interleukin-13 |
| IL-15 | Interleukin-15 |
| IL-16 | Interleukin-16 |
| IL-17 | Interleukin-17 |
| GCSF | Granulocyte-colony stimulating factor |
| GM-CSF | Granulocyte-macrophage colony-stimulating factor |
| M-CSF | Macrophage colony-stimulating factor |
| TNF-α | Tumor necrosis factor alpha |
| TNF-β | Tumor necrosis factor-beta; Lymphotoxin-alpha(LT-α) |
| **Adhesion molecules** | ICAM 1 | Intercellular Adhesion Molecule 1; CD54 (Cluster of differentiation 54) |
| **Receptors for soluble form of cytokines** | IL-6sR | Soluble receptor for interleukin-6 |
| s TNF RI | Soluble receptor I for tumor necrosis factor |
| s TNF RII | Soluble receptor II for tumor necrosis factor |
| **Growth factors** | TGF-β1 | Transforming growth factor beta 1 |
| PDGF-BB | Platelet-derived growth factor subunit B |
| **Matrix metalloproteinases inhibitors** | TIMP-2 | Tissue inhibitor of metalloproteinases 2 |

**Supplementary file 5 -Table XXXX.** **List and characteristics of analytes spotted on the Human Phospho-MAPK array membrane.**

|  |  |  |
| --- | --- | --- |
| **Target/Control** | **Alternate Nomenclature** | **Phosphorylation Site Detected** |
| **Akt1** | PKBα, RACα | S473 |
| **Akt2** | PKBβ, RACβ | S474 |
| **Akt3** | PKBγ, RACγ | S472 |
| **Akt pan** | \_\_\_ | S473, S474, S472 |
| **CREB** | \_\_\_ | S133 |
| **ERK1** | MAPK3, p44 MAPK | T202/Y204 |
| **ERK2** | MAPK1, p42 MAPK | T185/Y187 |
| **GSK-3α/β** | GSK3A/GSK3B | S21/S9 |
| **GSK-3β** | GSK3B | S9 |
| **HSP27** | HSPB1, SRP27 | S78/S82 |
| **JNK1** | MAPK8, SAPK1γ | T183/Y185 |
| **JNK2** | MAPK9, SAPK1α | T183/Y185 |
| **JNK3** | MAPK10, SAPK1β | T221/Y223 |
| **JNK pan** | \_\_\_ | T183/Y185, T221/Y223 |
| **MKK3** | MEK3, MAP2K3 | S218/T222 |
| **MKK6** | MEK6, MAP2K6 | S207/T211 |
| **MSK2** | RSKβ, RPS6KA4 | S360 |
| **p38α** | MAPK14, SAPK2A, CSBP1 | T180/Y182 |
| **p38β** | MAPK11, SAPK2B, p38-2 | T180/Y182 |
| **p38δ** | MAPK13, SAPK4 | T180/Y182 |
| **p38γ** | MAPK12, SAPK3, ERK6 | T183/Y185 |
| **p53** | \_\_\_ | S46 |
| **p70 S6 Kinase** | S6K1p70α, RPS6KB1 | T421/S424 |
| **RSK1** | MAPKAPK1α, RPS6KA1 | S380 |
| **RSK2** | ISPK-1, RPS6KA3 | S386 |
| **TOR** | \_\_\_ | S2448 |

**Supplementary file 6 - Table XXXXX. Amounts of phenolic compounds from GP extract expressed in mg/100g (catechin equivalent for catechin and derivates; cyanidin equivalent for anthocyanins)**

|  |  |  |
| --- | --- | --- |
| **Peak no.** | **Analyte (polyphenol classes)** | **Concentration (mg/100g)** |
| **1** | *Gallic acid-glucoside* | 2,223 |
| **2** | *Gallic acid* | 2,709 |
| **3** | *Procyanidin trimer* | 10.62 |
| **4** | *Procyanidin trimer* | 10.16 |
| **5** | *Catechin* | 11.63 |
| **6** | *Procyanidin dimer* | 0.0 |
| **7** | *Epicatechin* | 51.96 |
| **8** | *Gallocatechin* | 6.90 |
| **9** | *Epigallocatechin* | 9.20 |
| **10** | *Petunidin 3-O-glucoside* | 0.0 |
| **11** | *Procyanidin dimer* | 22.79 |
| **12** | *Malvidin 3-O-glucoside* | 6.75 |
| **13** | *Malvidin 3-O-(6’’- coumaroyl –glucoside)* | 7.44 |
| **14** | *Isorhamnetin 3-O-glucoside* | 0.0 |
| **15** | *Delfinidin* | 16,73 |
| **16** | *Quercetin 3-β-D-glucozida* | 1,10 |
| **17** | *Quercetin* | 5,04 |
| **18** | *Acid elagic* | 5,13 |
| **19** | *Miricetin* | 1,10 |

**References for supplementary file 1** - Table X. Oligonucleotide primers used for qPCR amplification

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