**TABLE S1-1:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Amino Acid | Glycine, serine and threonine metabolism | glycine | GC/MS | **1.37** | 1.08 |
| serine | GC/MS | **1.20** | 1.00 |
| N-acetylserine | GC/MS | 1.08 | **0.77** |
| threonine | GC/MS | 1.19 | 0.98 |
| Alanine and aspartate metabolism | alanine | GC/MS | **1.27** | 1.12 |
| beta-alanine | GC/MS | 1.21 | 0.98 |
| N-acetylalanine | LC/MS neg | 1.02 | 0.69 |
| aspartate | GC/MS | 0.81 | 0.75 |
| asparagine | GC/MS | **1.75** | **1.48** |
| Glutamate metabolism | glutamate | LC/MS pos | 1.10 | **1.18** |
| glutamine | LC/MS pos | **2.23** | **2.71** |
| pyroglutamine\* | LC/MS pos | 0.99 | 1.07 |
| gamma-aminobutyrate (GABA) | GC/MS | 1.21 | 0.97 |
| N-acetylglutamate | LC/MS pos | **0.29** | **0.34** |
| Histidine | histidine | GC/MS | 1.07 | 0.92 |
| Lysine metabolism | cadaverine | GC/MS | **2.67** | 1.59 |
| lysine | GC/MS | **1.33** | 1.18 |
| 2-aminoadipate | GC/MS | 1.16 | 0.86 |
| N6-acetyllysine | LC/MS pos | 1.11 | 1.32 |
| Phenylalanine & tyrosine metabolism | phenylalanine | LC/MS pos | **1.14** | **1.13** |
| tyrosine | LC/MS pos | **1.15** | **1.21** |
| Tryptophan metabolism | kynurenine | LC/MS pos | **6.11** | **31.17** |
| tryptophan | LC/MS pos | 1.13 | 1.03 |
| C-glycosyltryptophan\* | LC/MS pos | **1.35** | **1.55** |
| Valine, leucine and isoleucine metabolism | isoleucine | LC/MS pos | **1.21** | **1.17** |
| leucine | LC/MS pos | **1.29** | **1.21** |
| valine | LC/MS pos | **1.23** | **1.14** |
| Cysteine, methionine, SAM, taurine metabolism | cysteine | GC/MS | 1.14 | **0.55** |
| hypotaurine | GC/MS | 1.18 | 0.97 |
| S-adenosylhomocysteine  | LC/MS neg | **1.41** | **1.34** |
| methionine | LC/MS pos | **1.23** | **1.20** |
| N-acetylmethionine | LC/MS neg | 1.08 | 0.93 |
| homocysteine | GC/MS | 0.75 | 0.73 |
| Urea cycle; arginine-, proline-, metabolism | dimethylarginine (SDMA + ADMA) | LC/MS pos | **1.74** | **1.78** |
| arginine | LC/MS pos | **1.34** | **1.53** |
| ornithine | GC/MS | **1.41** | **1.46** |
| proline | LC/MS pos | **1.29** | 1.18 |
| citrulline | LC/MS pos | **2.51** | **2.45** |
| trans-4-hydroxyproline | GC/MS | **1.68** | 1.04 |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-2:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Amino Acid | Creatine | creatine | LC/MS pos | 1.06 | 1.00 |
| Polyamine metabolism | 5-methylthioadenosine (MTA) | LC/MS pos | **0.71** | 0.90 |
| putrescine | GC/MS | **2.76** | **2.48** |
| agmatine | GC/MS | 1.53 | 1.33 |
| spermidine | LC/MS pos | **2.66** | **2.97** |
| spermine | GC/MS | **2.94** | **5.96** |
| Glutathione metabolism | glutathione, reduced (GSH) | LC/MS pos | **1.20** | 0.98 |
| 5-oxoproline | LC/MS neg | 1.15 | 1.10 |
| glutathione, oxidized (GSSG) | LC/MS pos | 1.21 | 1.19 |
| cysteine-glutathione disulfide | LC/MS pos | 1.25 | 1.06 |
| Peptide | Dipeptide | glycylglycine | GC/MS | **1.34** | 1.11 |
| glycylserine | GC/MS | 0.98 | 0.89 |
| glycylproline | LC/MS pos | 0.80 | 1.02 |
| glycylleucine | LC/MS pos | 1.09 | 1.19 |
| glycylglutamate | GC/MS | 1.05 | 0.90 |
| aspartylphenylalanine | LC/MS pos | 1.19 | 1.22 |
| cysteinylglycine | GC/MS | 0.89 | 0.73 |
| gamma-glutamyl | gamma-glutamylglutamate | LC/MS pos | 1.22 | 1.40 |
| Carbohydrate | Aminosugars metabolism | erythronate\* | GC/MS | **0.64** | **0.62** |
| N-acetylneuraminate | GC/MS | 0.92 | 1.02 |
| Fructose, mannose, galactose, starch and sucrose metabolism | fructose | GC/MS | 1.06 | 1.13 |
| lactose | GC/MS | 0.85 | 0.65 |
| mannose-6-phosphate | GC/MS | 0.75 | **3.18** |
| sorbitol | GC/MS | **0.43** | **0.28** |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-3:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Carbohydrate | Glycolysis, gluconeogenesis, pyruvate metabolism | glycerate | GC/MS | **1.55** | **1.85** |
| glucose-6-phosphate (G6P) | GC/MS | 0.64 | 3.16 |
| glucose 1-phosphate | GC/MS | 1.20 | **0.33** |
| glucose | GC/MS | 1.38 | **10.53** |
| fructose-6-phosphate | GC/MS | 1.04 | 2.50 |
| fructose 1-phosphate | GC/MS | 1.59 | 0.93 |
| Isobar: fructose 1,6-diphosphate, glucose 1,6-diphosphate | LC/MS neg | 1.21 | 1.12 |
| 2-phosphoglycerate | GC/MS | 1.91 | 2.05 |
| 3-phosphoglycerate | GC/MS | 1.89 | **2.34** |
| dihydroxyacetone phosphate (DHAP) | GC/MS | 1.64 | 1.50 |
| phosphoenolpyruvate (PEP) | GC/MS | **2.90** | **4.31** |
| pyruvate | GC/MS | 1.59 | 0.98 |
| lactate | GC/MS | 1.18 | 0.75 |
| Nucleotide sugars, pentose metabolism | 6-phosphogluconate | LC/MS neg | 1.42 | **3.24** |
| ribitol | GC/MS | 0.79 | 0.73 |
| sedoheptulose-7-phosphate | GC/MS | 1.29 | 1.11 |
| gluconate | GC/MS | 0.57 | 1.04 |
| ribose | GC/MS | 1.19 | 1.04 |
| ribose 5-phosphate | GC/MS | **1.65** | 1.09 |
| Isobar: ribulose 5-phosphate, xylulose 5-phosphate | GC/MS | **1.79** | 1.39 |
| UDP-glucuronate | GC/MS | 1.05 | 1.16 |
| Energy | Krebs cycle | citrate | GC/MS | 1.00 | 1.12 |
| succinate | GC/MS | 1.00 | 0.86 |
| fumarate | GC/MS | **1.27** | **1.25** |
| malate | GC/MS | 0.97 | 0.93 |
| Oxidative phosphorylation | acetylphosphate | GC/MS | 1.12 | 1.28 |
| phosphate | GC/MS | 1.22 | 1.23 |
| pyrophosphate (PPi) | GC/MS | 1.48 | 1.17 |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-4:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Lipid | Essential fatty acid | dihomo-linolenate (20:3n3 or n6) | LC/MS neg | **1.99** | **3.14** |
| eicosapentaenoate (EPA; 20:5n3) | LC/MS neg | **1.68** | **2.63** |
| docosapentaenoate (n3 DPA; 22:5n3) | LC/MS neg | **2.15** | **2.80** |
| docosahexaenoate (DHA; 22:6n3) | LC/MS neg | **1.99** | **2.28** |
| Long chain fatty acid | myristate (14:0) | GC/MS | 1.34 | **1.37** |
| palmitate (16:0) | GC/MS | 1.27 | **1.38** |
| palmitoleate (16:1n7) | GC/MS | 0.98 | 1.12 |
| margarate (17:0) | GC/MS | 1.26 | **1.50** |
| 10-heptadecenoate (17:1n7) | GC/MS | 1.32 | 1.02 |
| stearate (18:0) | GC/MS | 1.18 | **1.31** |
| oleate (18:1n9) | LC/MS neg | **1.57** | **1.63** |
| cis-vaccenate (18:1n7) | GC/MS | 1.08 | **1.41** |
| linoleate (18:2n6) | LC/MS neg | **1.53** | **1.58** |
| 10-nonadecenoate (19:1n9) | LC/MS neg | **1.55** | **1.46** |
| arachidate (20:0) | GC/MS | 1.18 | **1.57** |
| eicosenoate (20:1n9 or 11) | LC/MS neg | **1.67** | **1.43** |
| dihomo-linoleate (20:2n6) | LC/MS neg | **1.70** | **1.65** |
| mead acid (20:3n9) | LC/MS neg | 1.38 | 1.23 |
| arachidonate (20:4n6) | LC/MS neg | **1.65** | **2.32** |
| behenate (22:0) | GC/MS | 1.14 | 1.27 |
| docosadienoate (22:2n6) | LC/MS neg | **1.65** | 1.22 |
| docosatrienoate (22:3n3) | LC/MS neg | **1.83** | **2.18** |
| adrenate (22:4n6) | LC/MS neg | 1.36 | **2.02** |
| lignocerate (24:0) | GC/MS | 1.29 | 0.99 |
| hexacosanoate | GC/MS | 0.69 | 0.72 |
| Fatty acid, ester | n-Butyl Oleate | GC/MS | 0.89 | 1.14 |
| Fatty acid, monohydroxy | 4-hydroxybutyrate (GHB) | GC/MS | 1.08 | **0.48** |
| 2-hydroxystearate | LC/MS neg | **1.77** | **3.01** |
| 2-hydroxypalmitate | LC/MS neg | **1.46** | **2.50** |
| Fatty acid, dicarboxylate | 2-hydroxyglutarate | GC/MS | 1.12 | 1.04 |
| Fatty acid, amide | oleamide | GC/MS | 1.69 | 1.71 |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-5:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Lipid | Glycerolipid metabolism | choline phosphate | LC/MS pos | **1.39** | **1.40** |
| ethanolamine | GC/MS | 1.28 | 1.06 |
| phosphoethanolamine | GC/MS | 1.03 | 0.98 |
| choline | LC/MS pos | **1.23** | 1.15 |
| glycerol 3-phosphate (G3P) | GC/MS | **0.54** | **0.36** |
| glycerophosphorylcholine (GPC) | LC/MS pos | **0.44** | **0.31** |
| cytidine 5'-diphosphocholine | LC/MS pos | 1.14 | 1.06 |
| Inositol metabolism | myo-inositol | GC/MS | **0.26** | **1.32** |
| inositol 1-phosphate (I1P) | GC/MS | 1.23 | 1.74 |
| scyllo-inositol | GC/MS | 1.04 | 1.19 |
| Lysolipid | 1-palmitoylglycerophosphoethanolamine | LC/MS pos | 0.95 | 0.87 |
| 2-palmitoylglycerophosphoethanolamine\* | LC/MS pos | 0.67 | 0.64 |
| 2-palmitoleoylglycerophosphoethanolamine\* | LC/MS pos | 0.49 | **0.48** |
| 1-stearoylglycerophosphoethanolamine | LC/MS neg | 1.38 | 1.14 |
| 2-oleoylglycerophosphoethanolamine\* | LC/MS pos | 0.63 | **0.47** |
| 1-arachidonoylglycerophosphoethanolamine\* | LC/MS neg | 1.44 | **1.81** |
| 2-arachidonoylglycerophosphoethanolamine\* | LC/MS pos | 0.65 | 0.62 |
| 2-docosapentaenoylglycerophosphoethanolamine\* | LC/MS pos | 0.73 | 0.67 |
| 2-docosahexaenoylglycerophosphoethanolamine\* | LC/MS pos | 0.66 | **0.53** |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-6:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Lipid | Lysolipid | 1-myristoylglycerophosphocholine | LC/MS pos | 0.65 | 1.06 |
| 2-myristoylglycerophosphocholine\* | LC/MS pos | 0.97 | 1.28 |
| 1-palmitoylglycerophosphocholine | LC/MS pos | 0.71 | 0.95 |
| 2-palmitoylglycerophosphocholine\* | LC/MS pos | 0.55 | 0.94 |
| 1-palmitoleoylglycerophosphocholine\* | LC/MS pos | **0.59** | 1.18 |
| 2-palmitoleoylglycerophosphocholine\* | LC/MS pos | 0.92 | 0.91 |
| 1-stearoylglycerophosphocholine | LC/MS pos | 0.77 | 1.02 |
| 1-oleoylglycerophosphocholine | LC/MS pos | 0.73 | 1.09 |
| 2-oleoylglycerophosphocholine\* | LC/MS pos | 0.70 | 0.87 |
| 2-arachidonoylglycerophosphocholine\* | LC/MS pos | 0.70 | 0.84 |
| 2-docosapentaenoylglycerophosphocholine\* | LC/MS pos | 0.87 | 0.86 |
| 1-stearoylglycerophosphoinositol | LC/MS neg | **2.60** | **4.94** |
| 1-arachidonoylglycerophosphoinositol\* | LC/MS neg | 1.01 | **2.56** |
| Monoacylglycerol | 1-palmitoylglycerol (1-monopalmitin) | GC/MS | 1.05 | 1.26 |
| 1-stearoylglycerol (1-monostearin) | GC/MS | 1.13 | **1.43** |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-7:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Lipid | Diacylglycerol | 1,2-dipalmitoylglycerol | GC/MS | **0.57** | 0.99 |
| Sphingolipid | sphinganine | LC/MS pos | 0.95 | 1.04 |
| sphingosine | LC/MS pos | 1.01 | 1.20 |
| Sterol/Steroid | cholesterol | GC/MS | 0.85 | 1.00 |
| 7-dehydrocholesterol | GC/MS | **0.65** | 0.90 |
| 7-beta-hydroxycholesterol | GC/MS | 1.01 | **1.82** |
| Nucleotide | Purine metabolism, (hypo)xanthine / inosine containing | xanthine | GC/MS | 1.51 | 1.70 |
| hypoxanthine | LC/MS neg | **1.39** | **1.42** |
| inosine | LC/MS neg | 1.29 | 0.75 |
| Purine metabolism, adenine containing | adenine | GC/MS | 0.87 | 0.84 |
| adenosine | LC/MS neg | **0.21** | **0.24** |
| adenosine 5'-monophosphate (AMP) | LC/MS pos | 0.56 | **0.25** |
| adenosine 5'-diphosphate (ADP) | LC/MS neg | **0.40** | **0.31** |
| Purine metabolism, guanine containing | guanine | GC/MS | **3.02** | **4.69** |
| guanosine | LC/MS neg | 1.11 | 0.69 |
| guanosine 5'- monophosphate (GMP) | LC/MS pos | 0.69 | 0.89 |
| Purine metabolism, urate metabolism | allantoin | GC/MS | 0.79 | 0.99 |
| Pyrimidine metabolism, cytidine containing | cytidine 5'-monophosphate (5'-CMP) | LC/MS pos | **1.37** | 0.91 |
| Pyrimidine metabolism, orotate containing | orotate | GC/MS | 0.56 | 0.97 |
| Pyrimidine metabolism, uracil containing  | uracil | GC/MS | **2.59** | **2.57** |
| uridine | LC/MS neg | 1.70 | **2.21** |
| uridine 5'-monophosphate (UMP) | LC/MS pos | 0.81 | 0.75 |
| Purine and pyrimidine metabolism | methylphosphate | GC/MS | 0.92 | 1.06 |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.

**TABLE S1-8:** **KSHV infection of endothelial cells alters global host cell metabolism.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUPER PATHWAY** | **SUB PATHWAY** | **BIOCHEMICAL NAME** | **PLATFORM** | **48hpi (KSHV vs Mock)** | **96hpi (KSHV vs Mock)** |
| Cofactors and vitamins | Ascorbate and aldarate metabolism | ascorbate (Vitamin C) | GC/MS | **0.38** | **0.18** |
| threonate | GC/MS | **0.40** | **0.51** |
| Folate metabolism | 5-methyltetrahydrofolate (5MeTHF) | LC/MS neg | 0.88 | 0.82 |
| Nicotinate and nicotinamide metabolism | nicotinamide | LC/MS pos | **1.79** | 1.10 |
| nicotinamide adenine dinucleotide (NAD+) | LC/MS pos | **0.72** | 1.05 |
| nicotinamide adenine dinucleotide reduced (NADH) | LC/MS neg | **0.65** | **0.75** |
| nicotinamide adenine dinucleotide phosphate (NADP+) | LC/MS pos | 1.14 | 1.21 |
| 1-methylnicotinamide | LC/MS pos | **1.59** | **1.83** |
| Pantothenate and CoA metabolism | pantothenate | LC/MS pos | **0.78** | 0.94 |
| coenzyme A | LC/MS neg | 1.50 | 1.46 |
| Riboflavin metabolism | flavin adenine dinucleotide (FAD) | LC/MS neg | 0.98 | 1.04 |
| Tocopherol metabolism | alpha-tocopherol | GC/MS | 0.86 | 0.86 |
| Xenobiotics | Chemical | glycerol 2-phosphate | GC/MS | **0.65** | **0.34** |
| phenol red | LC/MS neg | **2.10** | **2.08** |
| Sugar, sugar substitute, starch | erythritol | GC/MS | 1.09 | 0.94 |

Heat map of statistically significant biochemicals profiled in this study. For paired comparisons, shaded cells indicate p≤0.05 (red indicates that the mean values are significantly higher for that comparison; green values significantly lower). **Blue-bolded** text indicates 0.05< p< 0.10.