**Supplementary Table 1.** Metabolite changes that constitute the Venn diagram in Figure 2. Significant changes listed are reductions (labelled “-1”) or increases (labelled “1”) in concentrations relative to the relevant controls. ( OPLD-DA and t test p<0.05)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Metabolite** | **PTEN KO vs WT** | **PC3 vs NTB** | **U87MG vs NTB** | **PC3 pictilisib treated vs vehicle control** | **U87MG pictilisib treated vs vehicle control** |
| Alpha-aminoadipic acid | -1 |  |  |  | 1 |
| Asparagine | -1 | -1 | -1 | 1 | 1 |
| Aspartate |  |  |  | 1 |  |
| Citrulline | -1 | -1 |  | 1 | 1 |
| Glutamine |  | -1 |  |  | 1 |
| Glutamate | -1 | -1 | -1 | 1 | 1 |
| Glycine | -1 |  | -1 | 1 |  |
| Histidine | -1 | -1 | -1 | 1 | 1 |
| Isoleucine |  | -1 | -1 | 1 | 1 |
| Kynurenine |  |  |  | 1 |  |
| Leucine |  | -1 | -1 | 1 | 1 |
| Lysine |  |  |  |  | 1 |
| Methionine | -1 | -1 |  |  |  |
| Ornithine |  |  |  | 1 | 1 |
| Phenylalanine | -1 | -1 | -1 | 1 | 1 |
| Sarcosine |  | -1 |  | 1 |  |
| Symmetric dimethylarginine |  |  |  | 1 | 1 |
| Serine | -1 | -1 | -1 | 1 | 1 |
| Threonine |  | -1 | -1 | 1 | 1 |
| Tryptophan | -1 | -1 | -1 | 1 | 1 |
| Tyrosine |  | -1 |  |  | 1 |
| Valine | -1 | -1 | -1 | 1 | 1 |
| C10:2 AC | -1 |  |  |  |  |
| C14 AC | -1 | -1 |  | 1 |  |
| C14:1 AC | -1 |  |  |  |  |
| C14:2-OH AC | -1 | -1 | -1 | 1 | 1 |
| C16 AC | -1 | -1 |  | 1 | 1 |
| C16:1 AC | -1 | -1 |  | 1 |  |
| C16:1-OH AC | -1 | -1 |  | 1 | 1 |
| C16:2 AC |  |  |  | 1 |  |
| C16:2-OH AC | -1 |  |  | 1 |  |
| C16-OH AC |  |  |  | 1 |  |
| C18 AC | -1 | -1 |  | 1 | 1 |
| C18:1 AC | -1 | -1 |  | 1 | 1 |
| C18:1-OH AC | -1 | -1 |  | 1 | 1 |
| C18:2 AC |  |  |  | 1 |  |
| C2 AC |  | -1 |  |  |  |
| C3 AC |  | -1 |  | 1 | 1 |
| C5 AC | -1 | -1 |  | 1 | 1 |
| C9 AC | -1 | -1 |  | 1 |  |
| lysoPC a C16:1 | -1 | -1 | -1 |  |  |
| lysoPC a C18:1 | -1 | -1 | -1 | 1 | 1 |
| lysoPC a C20:3 | -1 | -1 | -1 | 1 | 1 |
| lysoPC a C20:4 |  | -1 |  | 1 | 1 |
| PC aa C32:0 |  | -1 | -1 |  |  |
| PC aa C34:1 | -1 | -1 |  |  |  |
| PC aa C36:0 |  | -1 |  | 1 | 1 |
| PC aa C36:6 | -1 | -1 |  |  |  |
| PC aa C38:4 |  | -1 |  |  |  |
| PC aa C40:3 |  | -1 |  |  |  |
| PC aa C42:2 | -1 | -1 |  |  |  |
| PC aa C42:5 |  | -1 |  |  |  |
| PC ae C34:0 | -1 | -1 |  |  |  |
| PC ae C34:1 | -1 | -1 |  |  |  |
| PC ae C36:0 | -1 | -1 |  | 1 |  |
| PC ae C36:1 | -1 | -1 | -1 |  |  |
| PC ae C36:5 | -1 | -1 |  | 1 |  |
| PC ae C38:0 | -1 | -1 |  |  |  |
| PC ae C38:4 | -1 |  |  | 1 |  |
| PC ae C38:5 | -1 | -1 |  | 1 |  |
| PC ae C40:1 | -1 | -1 |  | 1 | 1 |
| PC ae C40:2 | -1 | -1 |  |  |  |
| PC ae C40:3 | -1 | -1 |  |  |  |
| PC ae C40:4 | -1 | -1 |  |  |  |
| PC ae C40:5 | -1 | -1 |  |  |  |
| PC ae C42:3 | -1 | -1 |  | 1 | 1 |
| PC ae C42:4 | -1 | -1 |  | 1 | 1 |
| PC ae C42:5 | -1 | -1 |  |  |  |
| SM (OH) C16:1 | -1 | -1 |  | 1 |  |
| SM (OH) C22:1 | -1 | -1 |  | 1 |  |
| SM (OH) C22:2 | -1 | -1 |  | 1 |  |
| SM (OH) C24:1 | -1 | -1 |  | 1 |  |
| SM C18:0 | -1 | -1 |  | 1 |  |
| SM C18:1 | -1 |  |  | 1 |  |
| SM C20:2 | -1 | -1 |  |  |  |

(a, acyl; aa, acyl-acyl; ae, acyl-alkyl; Cx:y, where x is the number of carbons in the fatty acid side chain; y is the number of double bonds in the fatty acid side chain; AC, acylcarnitine; DC, decarboxyl; M, methyl; OH, hydroxyl; PC, phosphatidylcholine; SM, sphingomyelin.)