**Table S1 Ischemia-related biomarkers analyzed based on targeted metabolomics**

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| **Metabolites** | **Formula** | **KEGG** | **Mass** |
| aL-Leucine-d3 | C6H10D3NO2 | C00123 | 135.1207 |
| L-Carnitine | C7H15NO3 | C00318 | 162.1125 |
| L-Homocysteine | C4H9NO2S | C00155 | 136.0427 |
| Guanidinoacetate | C3H7N3O2 | C00581 | 118.0611 |
| Creatine | C4H9N3O2 | C00300  | 132.0768 |
| L-Glutamine | C5H10N2O3 | C00064 | 147.0764 |
| L-Arginine | C6H14N4O2 | C00062  | 175.1190 |
| Tyramine | C8H11NO | C00483 | 138.0913 |
| L-Octanoylcarnitine | C15H29NO4 | C02838 | 288.2169 |
| 2-Oxoglutarate | C5H6O5 | C00026 | 147.0288 |
| Glycine | C2H5NO2 | C00037 | 76.0393 |
| aSuccinic acid-13C4 | [13C]4H6O4 | C00042 | 121.0328 |
| Hydroxypyruvate | C3H4O4 | C00168 | 103.0037 |
| Pyruvate | C3H4O3 | C00022 | 87.0088 |
| Glyoxylate | C2H2O3 | C00048 | 72.9931 |
| 5-Oxoproline | C5H7NO3 | C01879  | 128.0353 |
| Cystathionine | C7H14N2O4S | C00542 | 221.0602 |
| Urate | C5H4N4O3 | C00366 | 167.0211 |
| N-Acetyl-L-glutamate | C7H11NO5 | C00624 | 188.0564 |
| Lithocholic acid | C24H40O3 | C03990 | 421.2959 |
| Xanthine | C5H4N4O2 | C00385 | 151.0261 |
| Tetrahydrofolate | C19H23N7O6 | C00101 | 444.1637 |
| aL-Leucine-d3 | C6H10D3NO2 | C00123 | 133.1062 |
| Taurine | C2H7NO3S | C00245  | 124.0074 |
| L-Alanine | C3H7NO2 | C00041 | 88.0404 |
| L-Valine | C5H11NO2 | C00183  | 116.0717 |
| L-Threonine | C4H9NO3 | C00188 | 118.0510 |
| L-Tyrosine | C9H11NO3 | C00082 | 180.0666 |
| L-Leucine | C6H13NO2 | C00123 | 130.0874 |
| L-Phenylalanine | C9H11NO2 | C00079 | 164.0717 |
| L-Glutamate | C5H9NO4 | C00025 | 146.0456 |
| Cys-Gly | C5H10N2O3S | C01419 | 177.0339 |
| L-Aspartate | C4H7NO4 | C00049 | 132.0302 |
| aStearic acid-d3 | C18H33D3O2 | C01530 | 286.2831 |
| Phytosphingosine | C18H39NO3 | C12144 | 362.2912 |
| Anandamide | C22H37NO2 | C11695 | 346.2752 |
| Octadecatrienoic acid | C18H30O2 | C06426 | 277.2173 |
| Linoleate | C18H32O2 | C01595 | 279.2330 |
| Hexadecanoic acid | C16H32O2 | C00249  | 255.2330 |
| Myristic acid | C14H28O2 | C06424 | 227.2017 |
| Docosahexaenoic acid | C22H32O2 | C06429 | 327.2330 |
| Oleic acid | C18H34O2 | C00712 | 281.2486 |
| Stearic acid | C18H36O2 | C01530  | 283.2643 |
| Arachidonate | C20H32O2 | C00219 | 303.2330 |