

# Controlling the False Discovery Rate (FDR) by Benjamini & Hochberg (1995)

## Metabolomics file example

Table 1: P-values for correlation of FPG with all metabolites

|    | Metabolite | Pearson p-value | BH adjusted | Bonferroni adjusted |
|----|------------|-----------------|-------------|---------------------|
| 1  | mt1_11     | 0.000000        | 0.000000    | 0.000000            |
| 2  | mt1_1      | 0.000000        | 0.000000    | 0.000000            |
| 3  | mt1_3      | 0.000000        | 0.000000    | 0.000000            |
| 4  | mt1_12     | 0.000000        | 0.000000    | 0.000000            |
| 5  | mt1_5      | 0.000000        | 0.000000    | 0.000002            |
| 6  | mt2_8      | 0.000004        | 0.000034    | 0.000203            |
| 7  | mt2_14     | 0.000005        | 0.000037    | 0.000256            |
| 8  | mt1_2      | 0.000011        | 0.000072    | 0.000578            |
| 9  | mt2_11     | 0.000031        | 0.000162    | 0.001562            |
| 10 | mt2_3      | 0.000032        | 0.000162    | 0.001622            |
| 11 | mt1_6      | 0.000059        | 0.000275    | 0.003020            |
| 12 | mt1_15     | 0.000072        | 0.000304    | 0.003653            |
| 13 | mt3_12     | 0.000861        | 0.003379    | 0.043924            |
| 14 | mt3_17     | 0.000939        | 0.003422    | 0.047903            |
| 15 | mt3_13     | 0.001079        | 0.003667    | 0.055008            |
| 16 | mt1_8      | 0.001189        | 0.003791    | 0.060661            |
| 17 | mt2_17     | 0.001750        | 0.005250    | 0.089243            |
| 18 | mt3_1      | 0.002578        | 0.007303    | 0.131457            |
| 19 | mt1_10     | 0.004976        | 0.013356    | 0.253764            |
| 20 | mt3_5      | 0.009092        | 0.023186    | 0.463716            |
| 21 | mt3_9      | 0.010284        | 0.024976    | 0.524486            |
| 22 | mt1_14     | 0.012210        | 0.028306    | 0.622735            |
| 23 | mt3_11     | 0.017276        | 0.038307    | 0.881066            |
| 24 | mt1_13     | 0.023946        | 0.050885    | 1.000000            |
| 25 | mt3_3      | 0.026400        | 0.053856    | 1.000000            |
| 26 | mt2_7      | 0.033859        | 0.064637    | 1.000000            |
| 27 | mt3_8      | 0.034220        | 0.064637    | 1.000000            |
| 28 | mt2_10     | 0.037838        | 0.068919    | 1.000000            |
| 29 | mt3_10     | 0.070151        | 0.123368    | 1.000000            |
| 30 | mt3_14     | 0.079296        | 0.127774    | 1.000000            |
| 31 | mt3_15     | 0.079851        | 0.127774    | 1.000000            |
| 32 | mt2_16     | 0.080172        | 0.127774    | 1.000000            |
| 33 | mt2_9      | 0.137087        | 0.211862    | 1.000000            |
| 34 | mt3_4      | 0.149261        | 0.223892    | 1.000000            |
| 35 | mt2_15     | 0.158254        | 0.230598    | 1.000000            |
| 36 | mt2_4      | 0.200899        | 0.279576    | 1.000000            |
| 37 | mt2_13     | 0.202830        | 0.279576    | 1.000000            |
| 38 | mt3_6      | 0.214043        | 0.287268    | 1.000000            |
| 39 | mt3_7      | 0.262222        | 0.342905    | 1.000000            |
| 40 | mt1_9      | 0.315838        | 0.399346    | 1.000000            |
| 41 | mt2_5      | 0.321043        | 0.399346    | 1.000000            |
| 42 | mt2_12     | 0.350702        | 0.425852    | 1.000000            |
| 43 | mt3_16     | 0.378852        | 0.449336    | 1.000000            |
| 44 | mt2_18     | 0.444526        | 0.506379    | 1.000000            |
| 45 | mt2_6      | 0.446805        | 0.506379    | 1.000000            |
| 46 | mt1_7      | 0.523121        | 0.576927    | 1.000000            |

|    | Metabolite | Pearson p-value | BH adjusted | Bonferroni adjusted |
|----|------------|-----------------|-------------|---------------------|
| 47 | mt3_18     | 0.531678        | 0.576927    | 1.000000            |
| 48 | mt2_2      | 0.603439        | 0.641154    | 1.000000            |
| 49 | mt2_1      | 0.638213        | 0.664263    | 1.000000            |
| 50 | mt3_2      | 0.705987        | 0.720106    | 1.000000            |
| 51 | mt1_4      | 0.917991        | 0.917991    | 1.000000            |

Table 2: P-values for correlation of FPG with mt1 metabolites

|    | Metabolite | Pearson p-value | BH adjusted | Bonferroni adjusted |
|----|------------|-----------------|-------------|---------------------|
| 1  | mt1_11     | 0.000000        | 0.000000    | 0.000000            |
| 2  | mt1_1      | 0.000000        | 0.000000    | 0.000000            |
| 3  | mt1_3      | 0.000000        | 0.000000    | 0.000000            |
| 4  | mt1_12     | 0.000000        | 0.000000    | 0.000000            |
| 5  | mt1_5      | 0.000000        | 0.000000    | 0.000000            |
| 6  | mt1_2      | 0.000011        | 0.000028    | 0.000170            |
| 7  | mt1_6      | 0.000059        | 0.000127    | 0.000888            |
| 8  | mt1_15     | 0.000072        | 0.000134    | 0.001074            |
| 9  | mt1_8      | 0.001189        | 0.001982    | 0.017841            |
| 10 | mt1_10     | 0.004976        | 0.007464    | 0.074636            |
| 11 | mt1_14     | 0.012210        | 0.016651    | 0.183157            |
| 12 | mt1_13     | 0.023946        | 0.029933    | 0.359190            |
| 13 | mt1_9      | 0.315838        | 0.364429    | 1.000000            |
| 14 | mt1_7      | 0.523121        | 0.560487    | 1.000000            |
| 15 | mt1_4      | 0.917991        | 0.917991    | 1.000000            |

Table 3: P-values for correlation of FPG with mt2 metabolites

|    | Metabolite | Pearson p-value | BH adjusted | Bonferroni adjusted |
|----|------------|-----------------|-------------|---------------------|
| 1  | mt2_8      | 0.000004        | 0.000045    | 0.000072            |
| 2  | mt2_14     | 0.000005        | 0.000045    | 0.000091            |
| 3  | mt2_11     | 0.000031        | 0.000143    | 0.000551            |
| 4  | mt2_3      | 0.000032        | 0.000143    | 0.000573            |
| 5  | mt2_17     | 0.001750        | 0.006299    | 0.031497            |
| 6  | mt2_7      | 0.033859        | 0.097297    | 0.609469            |
| 7  | mt2_10     | 0.037838        | 0.097297    | 0.681080            |
| 8  | mt2_16     | 0.080172        | 0.180387    | 1.000000            |
| 9  | mt2_9      | 0.137087        | 0.274174    | 1.000000            |
| 10 | mt2_15     | 0.158254        | 0.284856    | 1.000000            |
| 11 | mt2_4      | 0.200899        | 0.304245    | 1.000000            |
| 12 | mt2_13     | 0.202830        | 0.304245    | 1.000000            |
| 13 | mt2_5      | 0.321043        | 0.444521    | 1.000000            |
| 14 | mt2_12     | 0.350702        | 0.450902    | 1.000000            |
| 15 | mt2_18     | 0.444526        | 0.502655    | 1.000000            |
| 16 | mt2_6      | 0.446805        | 0.502655    | 1.000000            |
| 17 | mt2_2      | 0.603439        | 0.638213    | 1.000000            |
| 18 | mt2_1      | 0.638213        | 0.638213    | 1.000000            |

Table 4: P-values for correlation of FPG with mt3 metabolites

|    | Metabolite | Pearson p-value | BH adjusted | Bonferroni adjusted |
|----|------------|-----------------|-------------|---------------------|
| 1  | mt3_12     | 0.000861        | 0.006472    | 0.015503            |
| 2  | mt3_17     | 0.000939        | 0.006472    | 0.016907            |
| 3  | mt3_13     | 0.001079        | 0.006472    | 0.019415            |
| 4  | mt3_1      | 0.002578        | 0.011599    | 0.046397            |
| 5  | mt3_5      | 0.009092        | 0.030852    | 0.163664            |
| 6  | mt3_9      | 0.010284        | 0.030852    | 0.185113            |
| 7  | mt3_11     | 0.017276        | 0.044424    | 0.310965            |
| 8  | mt3_3      | 0.026400        | 0.059400    | 0.475201            |
| 9  | mt3_8      | 0.034220        | 0.068439    | 0.615951            |
| 10 | mt3_10     | 0.070151        | 0.119776    | 1.000000            |
| 11 | mt3_14     | 0.079296        | 0.119776    | 1.000000            |
| 12 | mt3_15     | 0.079851        | 0.119776    | 1.000000            |
| 13 | mt3_4      | 0.149261        | 0.206670    | 1.000000            |
| 14 | mt3_6      | 0.214043        | 0.275198    | 1.000000            |
| 15 | mt3_7      | 0.262222        | 0.314666    | 1.000000            |
| 16 | mt3_16     | 0.378852        | 0.426208    | 1.000000            |
| 17 | mt3_18     | 0.531678        | 0.562953    | 1.000000            |
| 18 | mt3_2      | 0.705987        | 0.705987    | 1.000000            |