# Effect of updated Adult AHBA microarray data

Vesna Lukic, August 2014.

The adult AHBA microarray data was updated in September 2013. This update had the following effects:

* Some gene names have been changed eg one of the EE reference genes *FOXG1* is now called *FOXG1B*
* There are no longer 20,782 genes but 20,737 (45 fewer genes). This means that the probe file containing the gene symbols is no longer identical between the adult and developing AHBA. The BrainGEP package is therefore updated such that they now have their own probe files.
* Another effect of having 45 fewer genes is that the top 5% cut-off values change slightly, as do the weightings (very minor differences however; same values to 2-3 decimal places)
* Two candidate genes have been removed from the EE candidate set in Oliver et al. These genes are *SGK223* and *SLCO1B7*. This effect is very minor as these genes were not highly prioritized anyway.

## Results:

Adult AHBA eFDR results:

lukic:eFDR_continuous_pearson_adult_AHBA.pdf

This graph looks almost exactly the same as the one in Oliver *et al.*

Adult AHBA candidate gene prioritization:

New results:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Candidate\_gene | Number of sig. edges | Rank | R\_pearson\_sum | Average connection to ref genes |
| KCNB1 | 14 | 1 | 9.555504038 | 0.682536003 |
| GRIN2B | 14 | 2 | 9.183938186 | 0.655995585 |
| DAO | 13 | 3 | 8.66704035 | 0.666695412 |
| PLXNA1 | 14 | 4 | 8.535261822 | 0.609661559 |

Old results:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Candidate\_gene | Number of sig. edges | Rank | R\_pearson\_sum | Average connection to ref genes |
| KCNB1 | 14 | 1 | 9.555452862 | 0.682532347 |
| GRIN2B | 14 | 2 | 9.183910324 | 0.655993595 |
| DAO | 13 | 3 | 8.667038861 | 0.666695297 |
| PLXNA1 | 14 | 4 | 8.535318985 | 0.609665642 |

These values are very similar.

Corrplot and network shown below, also very similar to before. Note how *FOXG1* is now *FOXG1B*

