

Epigenetics in mental and neurodegenerative disorders

Citation for published version (APA):

Iatrou, A. (2018). *Epigenetics in mental and neurodegenerative disorders: The unusual suspects*. Maastricht University. <https://doi.org/10.26481/dis.20180712ai>

Document status and date:

Published: 01/01/2018

DOI:

[10.26481/dis.20180712ai](https://doi.org/10.26481/dis.20180712ai)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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STATEMENTS

1. The orchestrated propagation of tau pathology within the brain in conjunction with the non-cognitive preclinical symptomatology of Alzheimer's disease hint at the brainstem as a notable structure for decoding temporal and spatial causality in Alzheimer's disease pathogenesis. (*this thesis*)
2. Methylation of *MIR137* is less sensitive to post-mortem degradation when compared to its expression and therefore can be considered as a more stable marker. (*this thesis*)
3. Epigenetic markers previously associated with psychotic phenotypes can also be traced in the cerebellum of patients with bipolar disorder. (*this thesis*)
4. Acute and chronic regulation of the brain-derived neurotrophic factor (BDNF)/ tyrosine kinase B (TrkB) receptor signalling system by TB001, a synthetic TrkB agonist, rescues memory impairment in APP/PS1 mice. (*this thesis*)
5. While it is a fact that the lack of effective therapeutics is mainly due to the multifarious nature of Alzheimer's disease, it also holds true that the majority of research lines are restricted to pathological observations made decades ago and that researchers are reluctant to leap towards more innovative hypotheses.
6. Extreme reductionism in neuroscientific research has shifted the focus from global clarity towards exhaustive attention on single cellular pathways, or even single genes of interest and thus creating hypotheses of "one gene, one phenotype".
7. The impact of fundamental research might be hard to fit into traditional concept of 'valorisation', as its impact lays in the fact that it is vital to set the pillars for applied research and to inspire researchers, generate novel ideas that will eventually lead to translational scientific breakthroughs.
8. One of the biggest limitations that research is facing is publication bias.
9. Should Alzheimer's disease get eradicated, annual savings from payments for all American dementia patients could pay off the Greek government debt.
10. "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" (Lewis Carroll)
11. "Ringo isn't even the best drummer in The Beatles" (John Lennon/Jasper Carrott)