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BGRF announces in silico method to predict effectiveness of cognitive enhancers

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The Biogerontology Research Foundation (BGRF), a UK-based charity committed to the support of aging research to address the challenges of a rapidly aging population and to reduce the impact of disease on future generations, announces the publication of research into personalising nootropic drugs using in silico prediction methods.

The research, published in *Frontiers in Systems Neuroscience*, uses gene expression data to evaluate activated or suppressed signalling pathways in tissues or neurons of the cognitively enhanced brain. An algorithm maps expression data onto signalling pathways. The collective pathways and their activation form what a "signalling pathway cloud", a biological fingerprint of cognitive enhancement (or any other condition of interest). Drugs can then be screened and ranked based on their ability to minimise, mimic, or exaggerate pathway activation or suppression within that cloud.

Alex Zhavoronkov, PhD, director of the BGRF, commented: "Our current work in predicting the efficacy of drugs and drug combinations in treating and preventing some of the most age-related diseases suggests that some likely geroprotectors may also enhance cognitive function. We started looking at possibilities to confirm our theoretical predictions experimentally. Here we meditate on the possibility of applying our in silico screening platforms to pathways comprised of genes implicated in modulating cognitive states. We are actively seeking academic and industry collaborators for this exciting neuroscience project."