

UCI study reveals why Down syndrome boosts susceptibility to other conditions

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A study led by UC Irvine researchers has revealed some of the underlying neural factors that explain why people with Down syndrome are more susceptible to Alzheimer's disease, diabetes and autistic spectrum disorders.

Jorge Busciglio, associate professor of neurobiology & behavior, and colleagues analyzed the cellular and molecular mechanisms leading to oxidative stress and mitochondrial dysfunction in Down [syndrome](#) individuals. They found that this breakdown in energy metabolism within brain cells contributes to the higher probability of these other conditions.

Down syndrome occurs when a person has 47 chromosomes instead of the usual 46. Estimates suggest that 25 percent or more of individuals over 35 with Down syndrome show signs of Alzheimer's-type dementia. This percentage increases with age. The incidence of Alzheimer's disease in people with [Down syndrome](#) is roughly three to five times greater than in the general population.

More information: Pablo Helguera, Jaqueline Seigle and Michael Hanna of UC Irvine; Jose Rodriguez of UCLA; and Gustavo Helguera of Argentina's University of Buenos Aires also contributed to the study, which appears in the Jan. 8 issue of *Cell Metabolism* and was supported by the Larry L. Hillblom Foundation and the National Institutes of Health.

Provided by University of California, Irvine

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