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## The Role of DJ-1 in Cognitive Impairment

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A high percentage of individuals affected by Parkinson's disease will eventually develop dementia; and many individuals with Alzheimer's dementia exhibit some symptoms resembling Parkinson's disease. These observations suggest that the two conditions may be associated with overlapping pathologies in the brain.

DJ-1 is a gene that codes for a protein found in many cells, and mutations of the DJ-1 gene are associated with some inherited forms of Parkinson's disease. Amy B. Manning-Bog, Ph.D. and colleagues are studying the role of the DJ-1 gene in Parkinson's disease and dementia. Using mice that were genetically altered so that the DJ-1 gene is not expressed, Dr. Manning-Bog's team has shown that lack of a functional DJ-1 gene can lead to cognitive impairment and development of some Alzheimer-like pathologies in the brain. The researchers now plan to perform a detailed analysis of the role of DJ-1 and how its absence leads to a brain condition exhibiting features of both Parkinson's disease and Alzheimer's disease. These studies could help to characterize one of the fundamental genetic defects leading to dementia.