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CHARACTERIZATION OF THE CYNOMOLGUS MONKEY AS A SPONTANEOUS MODEL FOR STUDIES OF SENILE DEMENTIA

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Background: The cynomolgus monkey (*Macaca fascicularis*) has shown promise as a spontaneous model of age-related dementias, such as Alzheimer's Disease. **Methods:** Using a series of memory tests, we have found evidence that performance on delayed response tasks was age-related, with poorer performance being demonstrated by old monkeys (> 20 years of age), compared to young (4-9 years of age) and middle-aged (10-16 years of age) individuals. **Results:** Performance on the memory tasks was correlated with levels of the core biomarkers indicative of Alzheimer's Disease in the circulation; in particular with amyloid-beta 1-42 (A β 42). Structural magnetic resonance imaging (MRI) studies identified abnormalities, such as atrophy in the hippocampus and relevant cortical areas, in aged monkeys that were correlated with poor memory and low A β 42 levels in the circulation. **Conclusions:** These data emphasize the potential importance of aged cynomolgus monkeys as spontaneous models for investigations of senile dementia as it affects humans. We are presently extending these studies to include investigations of whether the histopathological hallmarks of Alzheimer's disease (senile plaques of amyloid beta and nerve tangles) are present in the brains of those aged monkeys that exhibited memory performance deficits, low circulating A β 42 and atrophy of relevant brain areas as determined by MRI.