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# Imaging of D-Cell: Aromatic L-Amino Acid Decarboxylase (AADC)-Immunoreactive Glial Cell Found in Parkinsonian Striatum

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Aromatic L-amino acid decarboxylase (AADC = DDC, dopa decarboxylase)-immunoreactive glial cells, so-called D-cells, were seen in the striatum of a case with Parkinson's disease who had been taken L-dopa, surrounding perivascular spaces. The AADC-positive glial cells are likely to be microglia (Figure 1). The vascular walls of Parkinsonian striatum as well as cases without neuropsychiatric diseases contained AADC. The mechanism of AADC-immunoreactive glial cell expression is yet unclear.

So-called D-neuron, defined as the AADC-containing neuron which is devoid of neither dopamine nor serotonin, is the trace amine neuron, and the ligand neuron of trace amine-associated receptor, type 1 (TAAR1). The D-neuron is distributed throughout the human striatum, though the monkey striatum did not contain the D-neuron. In humans, D-neuron system is far developed in the forebrain. In schizophrenia brains, the number of striato-accumbal D-neurons was reduced.

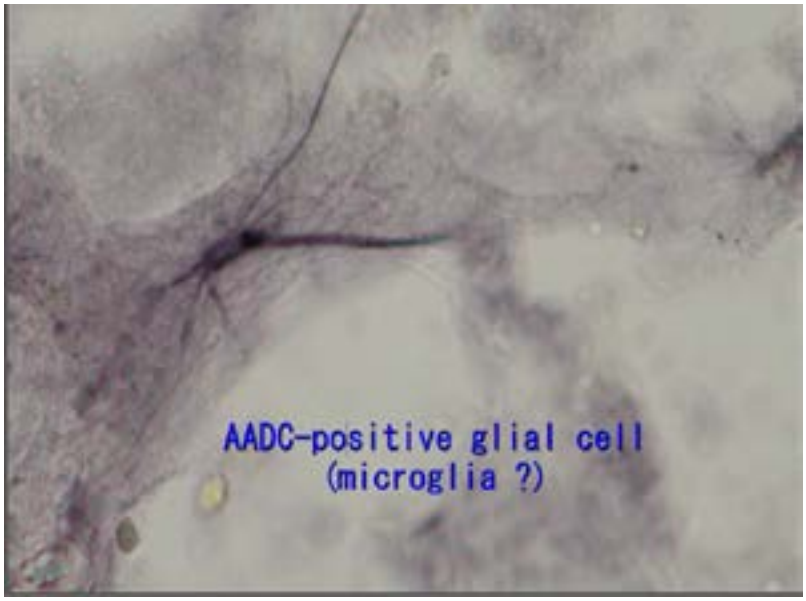


**Figure 1:** AADC-positive glial cell. (Autopsy brain of Sendai Medical Center, Japan, provided by Dr. Muneshige Tobita.).

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