**LEGEND OF FIGURES**

**An immunohistochemical analysis on the human cerebellar dopaminergic system**

**Paolo Flace, Paolo Livrea, Diana Galletta, Antonella Bizzoca, Gianpaolo Antonio Basile, Jacopo Junio Valerio Branca, Massimo Gulisano, Alberto Cacciola, Gianfranco Gennarini, Demetrio Milardi, Giuseppe Anastasi**, **Alessia Bramanti.**

**FIGURE LEGENDS OF DAT POSITIVITY IN THE CEREBELLAR CORTEX**

Fig. **1**. Dopamine transporter (DAT) immunoreactivity in the cerebellar cortex. The immunoreactivity is detectable in neuronal bodies and processes in the molecular layer (ML), in the Purkinje neuron layer (PL), in the granular layer (GL), in the white matter (WM). (Scale bar: 1A: 20μm).

Figs. **2A-E**. (**A**) Dopamine transporter (DAT) immunoreactivity in the molecular layer (ML), in the Purkinje neuron layer (PL), in the granular layer (GL) and in the subjacent white matter (WM). In the ML, DAT immunoreactivity in basket neurons (*arrows*); primary and secondary trunks dendritic and apical dendrites of Purkinje neurons (*small single asterisk*); negative stellate neurons (*double asterisk*). In the PL, DAT immunoreactive Purkinje neuron cell body (*double arrows*) and DAT immunoreactive primary trunk and apical dendritic (*small asterisk*), DAT immunonegative Purkinje neuron (*big arrowheads*); in the GL, immunoreactive granule cell body (*small arrowheads*); in the subjacent WM DAT immunoreactive fibers. (**B**) DAT immunoreactive basket neuron cell body; (**C**) ML, DAT immunoreactive secondary dendritic trunks and apical dendrities of Purkinje neurons (*small asterisk*); ML, DAT immunonegative stellate and basket neurons cell bodies (*double asterisk*). (**D**) ML, DAT immunoreactive dendritic trunk of Purkinje neuron; (**E**) ML, DAT immunoreactive axon terminals in close relationship to the wall of microvessels. (Scale bar: 2A: 20μm; 2B: 10μm; 2C: 20μm; 2D: 10μm; 2E: 10μm).

Figs. **3A**, **3B**. (**A**) PL, Dopamine transporter (DAT) immunoreactivity in the Purkinje neuron cell bodies (*double arrows*). (**B**) PL, Dopamine transporter (DAT) immunoreactivity in Purkinje neuron cell body (*double arrows*), DAT immunonegative Purkinje neuron cell body (*big arrowheads*), DAT immunoreactivity in close relationship to the cell body of immunonegative Purkinje neuron (big arrows), DAT immunoreactivity in space of Held (*big single asterisk*) (Scale bar: 3A 10μm; 3B 10μm).

Figs. **4A, 4B**. (**A**) GL, Dopamine transporter DAT immunoreactive perikarya and axon-like processes of the synarmotic neuron (**B**) DAT immunoreactive granules cell bodies (*small arrowheads*); clusters of DAT immunoreactivity in space of Held (*big asterisk*), DAT immunoreactive nerve fibers in the white matter; (Scale bar: 4A 60μm; 4B 10μm).

**FIGURE LEGENDS OF DAT POSITIVITY IN THE DENTATE NUCLEUS**

Figs. **5**. Distribution pattern of the dopamine transporter (DAT) immunoreactivity in the dentate nucleus gray matter and in the neighboring withe matter. (Scale bar: 40μm).

Figs. **6A, 6B**. (**A**) DAT immunoreactive small neuron cell bodies (*small* *triangular arrowheads*); DAT immunoreactive and DAT immunonegative medium neuron cell bodies (*medium asterisk*); DAT immunoreactive border neuron cell bodies (*small double arrows*); DAT positive central neuron cell bodies (*single small arrows*); DAT immunoreactive intermediate fusiform neuron cell bodies (*double asterisk*); (**B**) DAT immunoreactive small neuron cell bodies (*small triangular arrowheads*), DAT immunoreactive intermediate asymmetrical neurons (*big triangular arrowheads)*, DAT immunoreactive central neuron cell body (*single small arrows*), DAT immunoreactive border neuron cell bodies (*small double arrows*), (Scale bar: 6A 20μm; 6B 20μm).

Figs. **7A, 7B**. (**7A**) DAT immunoreactive small neuron cell body (*small* *triangular arrowheads*), small clusters of DAT immunoreactivity in close proximity of the wall of a microvessel (*V*), DAT immnorective cell body of a perivascular neuron type, DAT immunoreactive central neuron cell bodies (*single small arrows*). (**7B**) DAT immunoreactive perivascular neuron cell body and processes in close relationship with a microvessel (*V*), DAT immunoreactive small neuron cell body (*small* *triangular arrowheads*), DAT immunoreactive small neuron cell body (*small* *triangular arrowheads*), (Scale bar: 7A 40μm; 7B 40μm).

**FIGURE LEGENDS DRD2 POSITIVITY IN THE CEREBELLAR CORTEX**

Figs. **8A**, **8B**. (**8A**) Distribution pattern of dopamine receptor type 2 (DRD2) immunoreactivity in the cerebellar cortex. (**8B**) The DRD2 immunoreactivity is observable in neuronal bodies and processes in the layers of the cerebellar cortex. In the ML, DRD2 immunoreactive basket neuron cell body (*arrows*), in the PL, DRD2 immunoreactive Purkinje neuron cell body (*double arrows*), in GL, DRD2 immunoreactive clusters in the space of Held (*big asterisk*), (Scale bar: 8A 40μm; 8B 20μm).

Figs. **9A, 9B**. (**9A**) In the ML, DRD2 immunoreactive basket and stellate neuron cell bodies (*arrows*), DRD2 immunoreactive primary, secondary and apical dendrites of Purkinje neurons (small asterisk), DRD2 immunoreactive Purkinje neuron cell body (*double arrows*); (**9B**) cluster of DRD2 positive stellate cell bodies. (Scale bar: 9A: 20μm; 9B: 5μm).

Fig. **10**. DRD2 immunoreactive Purkinje neuron cell body, DRD2 granule positive cell body (Scale bar: 40μm)

Figs. **11 A-E**. (**13A**) DRD2 immunoreactive Purkinje neuron and Golgi neuron cell bodies; (**13B**) DRD2 immunoreactive Golgi neuron cell body and axon-like process, DRD2 positive big granule cell body; (**13C**) DRD2 immunoreactive big granule cell body; (**13D**) DRD2 positive mossy-like fibers; (**13E**) DRD2 immunoreactive granule cell body and DRD2 immunoreactive fibers in the white matter. (Scale bar: 13A 20μm; 13B 20μm; 13C 20μm; 13D 20μm; 13E 20μm).

Figs. **12A, 12B**. (**12A**)In the PL, group of DRD2 immunoreactive cell bodies of Purkinje neurons (*double arrows*), in the GL, immediately below the DRD2 immunoreactive cell bodies of the Purkinje neurons, from left to right DRD2 immunoreactive cell bodies of Golgi neuron, candelabrum neuron, Lugaro neuron; (**12B**) in the PL, group of DRD2 immunonegative cell bodies of Purkinje neurons (*triangular arrowheads*), DRD2 immunoreactive clusters in the space of Held (big asterisk). (Scale bar: 10A 40μm; 10B 40μm)

Figs. **13A-D**. (**13A**) DRD2 immunoreactive Purkinje neuron and Lugaro neuron cell bodies, (**13B**) DRD2 immunoreactive candelabrum neuron cell body, (**13C**) DRD2 positive perivascular neuron cell body, endothelial cell (EC), microvessel (V) (**13D**) DRD2 immunoreactive ellipsoidal cell body. (Scale bar: 12A 20μm; 12B 20μm;12 C 20μm; 12D 20μm).

Figs. **14A**, **14B**. (**14A**) DRD2 immunoreactive triangular neuron cell body, (**14B**) DRD2 immunoreactive globular neuron cell body. (Scale bar: 14A 25μm; 14B 25μm).

**FIGURE LEGENDS OF DRD2 POSITIVITY IN THE DENTATE NUCLEUS**

Figs. **15**. Distribution pattern of the dopamine receptor type 2 (DRD2) immunoreactivity in the dentate nucleus gray matter and in the neighboring withe matter. (Scale bar: 40μm).

Figs. **16A, 16B**. (**16A**) DRD2 immunoreactive small neuron cell body (*small triangular arrowheads*), DRD2 positive border neuron cell body (*small double arrows*), DRD2 positive intermediate asymmetrical neuron (*big triangular arrowheads*), DRD2 immunoreactive intermediate fusiform neuron cell body (*double* *asterisk*); (**16B**) DRD2 positive central neuron cell body. (Scale bar: 16A 20μm; 16B 10μm).