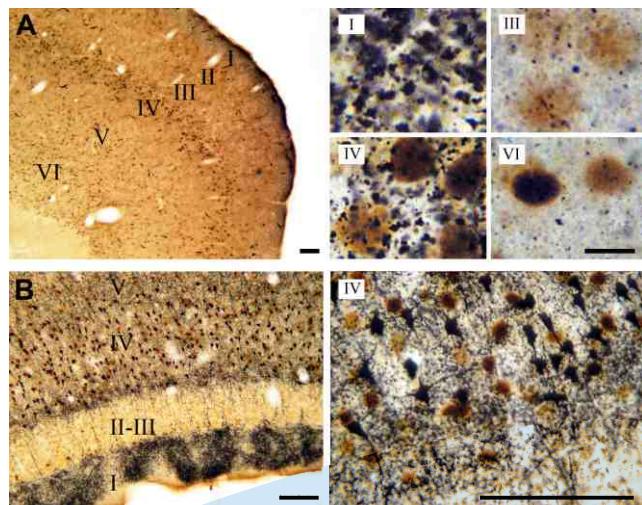


Degenerating profiles at very low magnification



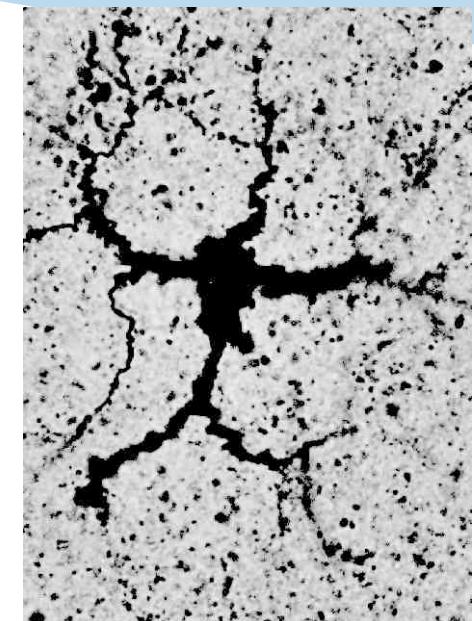
Double stain of A-Cu-Ag and Immunohistochemistry

Contact: Dr. Soledad de Olmos
neuroanatomia@immf.uncor.edu

Contact: Dr. Soledad de Olmos
 Instituto de Investigación Médica
 Mercedes y Martín Ferreyra
 INIMEC-CONICET
 Friuli 2434
 Barrio Parque Velez Sarsfield
 5016 - Córdoba, Provincia de Córdoba
 República Argentina
 TE : (54)-351-4681466
 FAX: (54)-351-4695163
 Casilla de Correo 389 - 5000 Córdoba
 Email: neuroanatomia@immf.uncor.edu
www.immf.uncor.edu

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- de Olmos S, Bender C, Olmos JS, Lorenzo A. Neurodegeneration and prolonged immediate early gene expression throughout cortical areas of the rat brain following acute administration of dizocilpine. (2009) *Neuroscience*; 164(3) pp.1347-59.

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Services offered by the Laboratory of Experimental Neuroanatomy and Histology

Standard Neurohistology

■ Perfusion of Laboratory Animals

■ Sectioning

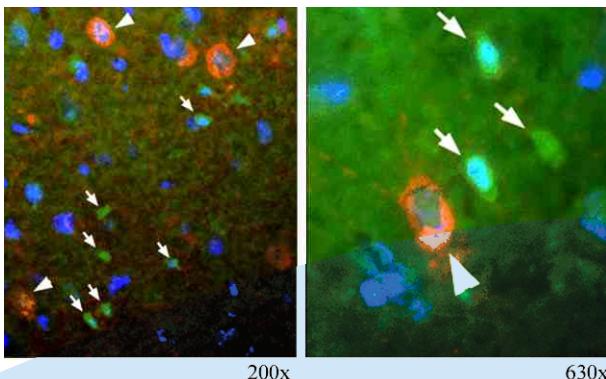
- Freeze-cut
- Cryostat
- Paraffin

■ Stains

- Neutral Red
- Thionin
- H&E
- Immunohistology

■ Degeneration Stains

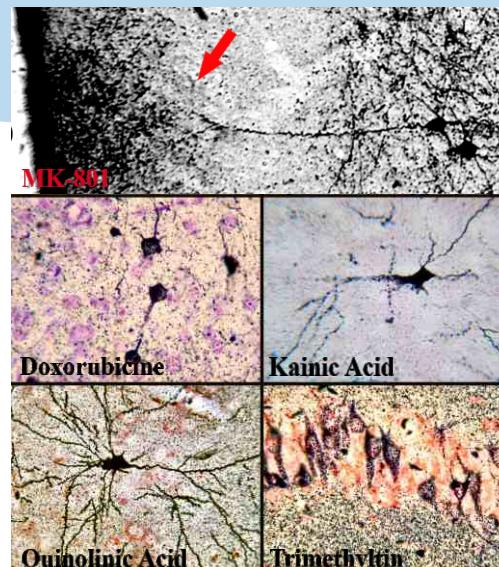
- Amino-Cupric-Silver



Immunohistochemistry combined with neurodegeneration techniques

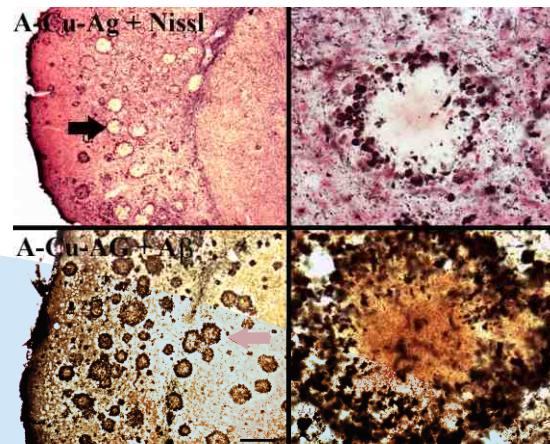
Low and high magnification of a triple stain that shows neuronal nuclei (Hoesch, blue), Parvalbumin positive cells (Immunohistochemistry, red) and degenerated neurons (Fluoro-Jade B, green).

Expertise and creators of Amino-Cupric-Silver Technique
The most sensitive method for detecting somato-dendritic and axonal neurodegeneration



Detects different types of chemical insults

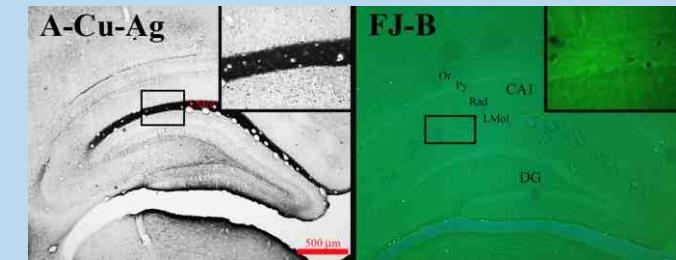
A-Cu-Ag allows to analyze with high contrast degenerated synaptic terminals, dendrites (red arrow), cell bodies and axons.



Detects Alzheimers plaques and distrophic neurites

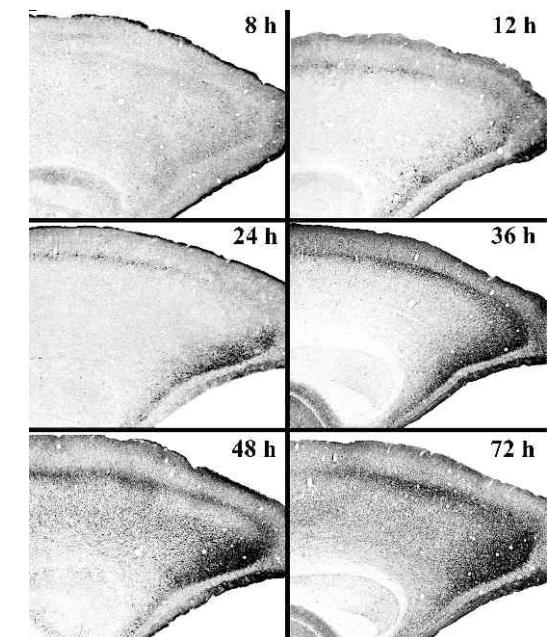
Frontal section of Transgenic mouse APP23 stained with A-Cu-Ag and counterstained with Neutral Red. Note how the distrophic neurites are stained positively with silver.

Lower panels: A-Cu-Ag counterstained with anti beta amyloid. The amyloid plaques stained positively with the antibody anti beta amyloid which are surrounded by the distrophic neurites.



Stains degenerated synaptic terminals and dendrites

Comparison of A-Cu-Ag with FJ-B in frontal sections through area CA1 of a female rat treated with 10 mg/kg of MK-801 and sacrificed 3 days post treatment. A-Cu-Ag stain shows very intense and massive degeneration of terminals reflected in the pitch-black area in CA1 field at magnifications of 2.5x and insert 20x. In contrast FJ-B detects no terminal degeneration at these magnifications.



Useful for time-course evaluation of neurotoxic effects

Retrosplenial cortex of a female rat treated with 10 mg/kg of MK-801 at different survival times.

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