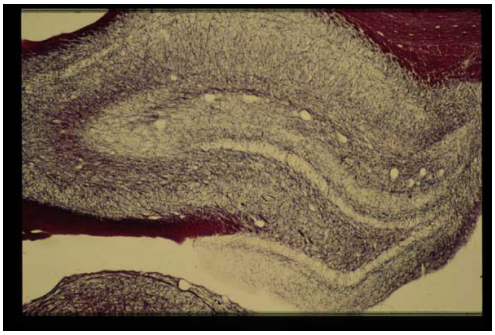
FT-DX2540

Black-Gold II Myelin Stain

Product Description

Name :	**Black-Gold II Myeling Stain**
Catalog Number :	FP-DX2540, 150mg FP-DX2541, 600mg
Composition :	Aurohalophosphate complex
Solubility:	Freely soluble in water, saline, or dilute acids
Purity :	No detectable amount of uncomplexed gold, no detectable amount of insoluble gold oxides or hydroxides.
Illumination :	Bright field or dark field



Storage: The powder should be stored well sealed at room temperature. The 0.2% Black-Gold II staining solution in saline (0.9%) should be stored in the dark. The staining solution may be reused for up to several months, depending on amount of tissue being processed.

Introduction

A novel haloaurophosphate complex called Black-Gold II has been synthesized and applied to localize myelin within the central nervous system. The technique is tailored to studies using formalin fixed non-solvent processed tissue. The technique stains large myelinated tracts dark red-brown, while the individual myelinated axons appear black. This novel tracer can be used to localize both normal and pathological myelin. Specific myelin changes associated with exposure to diverse neurotoxicants including kainic acid, domoic acid, 3-nitropropionic acid, Fluoro-Gold and isoniazid have been demonstrated and characterized. Black-Gold II can be combined with other histochemical markers including Nissl stains, retrogradely transported fluorescent tracers and fluorescent markers of neuronal degeneration. Advantages associated with the Black-Gold II technique include high resolution, high contrast, short histochemical processing time, and consistent reproducibility. Black-Gold II exhibits several advantages over Black-Gold. including high solubility, low cost, and high contrast without the need for intensifiers.

Directions for use

All animals were perfused with 500 ml of 0.1 M neutral phosphate buffered 10% formalin (4% formaldehyde) via the ascending aorta. The brains were post-fixed overnight in the same fixative solution. Twenty percent sucrose was added to the post-fixation solution of those brains that were to be cut on a freezing sliding

LIFE SCIENCES
interchim
211 bis, avenue JF Kennedy
BP 1140 - 03100 Montluçon
Fax +33 4 70 03 82 60
Hotline +33 4 70 03 73 06 • interbiotech@interchim.com

microtome. Either frozen or vibratome sections were cut at a thickness of 20-50 um and collected in 0.1 M neutral phosphate buffer. The sections were then typically mounted on 1% gel-coated slides and then air dried on a slide warmer (at 50°C) for at least half an hour. The sections can be stained loose, although the sections are easier to handle when mounted on slides. The mounted sections were rehydrated in distilled water for 2 min before transferring them to the warm (60-65°C) Black-Gold II solution.

A 0.3% solution Black-Gold II was made by adding 150 mg of Black-Gold II to 50 ml of 0.9% NaCl. The solution is typically heated in a microwave oven to the approximate temperature, and then fully equilibrate to 60°C in a conventional oven or water bath. The slide mounted tissue sections are transferred to this warm Black Gold II impregnating solution in the oven for 12-18 min. The exact staining time will vary depending on section thickness and solution temperature, it is advisable to initially monitor the staining visually. The sections are typically examined after 12 min. Staining of the fine parallel fibers of the molecular layer of the cortex is a good indicator of proper impregnation. If the section is under-impregnated these fibers will not be visible, indicating that the section should be placed in the staining solution again and microscopically examined at 2 or 3 min intervals. If the section is left in the staining solution too long, it will become over-impregnated allowing the neuropil in the molecular layer to acquire a lavender background color.

Intensification with potassium tetrachloroaureate is typically not needed when using Black-Gold II. The intensified or non-intensified sections are then rinsed for 2 min in distilled water, fixed for 3 min in a sodium thiosulfate solution, and then rinsed in tap water for at least 15 min (three 5 min changes). Slides are either air-dried on a slide warmer or dehydrated through gradated alcohols. The dehydrated sections are cleared in xylenes (Fisher Scientific, Pittsburgh, PA) for at least 2 min and then coverslipped with D.P.X. (Fluka Chem Group. Ronkonkoma. NY) plastic mounting media. Other mounting media can be used if the technique is not to be combined with fluorescent microscopy. When stored in the dark, both impregnation and intensification solutions typically remain stable and useable for several months, depending on frequency of use.

References

- **Original Black-Gold Methods Reference:** L. Schmued & W. Slikker, Brain Research 837 (1999) 289-297
- **Black-Gold II Method:** In Press, Black-Gold II abstract: SFN, Atlanta 2006: Comparing the novel bright field and fluorescent histochemical stains Black-Gold II and Aqua-Myelin for the localization of myelinopathies following exposure to kianic acid. L. Schmued, M. Paule, D. Heard & J. Bowyer.
- L. Schmued & W. Slikker. BLACK-GOLD; A SIMPLE, HIGH-RESOLUTION HISTOCHEMICAL LABEL FOR NORMAL AND PATHOLOGICAL MYELIN IN BRAIN TISSUE SECTIONS.

Technical and scientific information

Related products

- Black Gold II Staining Kit with Toluidine Blue O Counter Stain
- Black Gold II Staining Kit with Congo Red Counter Stain
- Fluoro-Jade C Staining Kit with DAPI Counter Stain
- Amylo-Glo
- Fluoro-Gold
- Fluoro-Jade B
- Fluoro-Jade C
- Fluoro-Ruby
- Fluoro-Turquoise

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

LIFE SCIENCES
interchim 211 bis, avenue JF Kennedy BP 1140 - 03100 Montluçon Fax +33 4 70 03 82 60 Hotline +33 4 70 03 73 06 • interbiotech@interchim.com