Amylite™ Red

Catalog number: 23040
Unit size: 100 Tests

Component	Storage	Amount (Cat No. 23040)
Amylite™ Red	Freeze (< -15 °C), Minimize light exposure	100 Tests

OVERVIEW

The accumulation of insoluble amyloid plaques in the nerve tissue is widely considered to contribute to the development of neurodegenerative human diseases, such as Alzheimer's disease. The investigation of the beta-amyloid formation is one of the most important tasks to find an effective way to inhibit the accumulation of insoluble amyloid plaques in the nerve tissue. However, the lack of effective imaging tools severely limited this research. Staining of nerve tissues with Congo Red dye is one of the most common tools for monitoring the formation of the amyloid aggregates. Congo Red has a few limitations such as its low sensitivity, significant toxicity and carcinogenicity. AAT Bioquest developed Amylite™ Red stain to address these limitations. Amylite™ Red is designed to label amyloid plaques in paraffin-embedded or freshly cut frozen tissue sections via a simple mix and read step. Amylite™ Red staining can be completed within 30 minutes with desired specificity. The staining process does not require antibodies. It is much more efficient and cost effective than the anti-amyloid antibody-based fluorescence imaging. Amylite™ Red imaging reagent is compatible with other fluorophores, such as DAPI, Hoechst and ethidium bromide, as well as fluorescent-labelled antibodies with emission spectra in the blue or green emission range, such as GFP.

AT A GLANCE

Important Note

Before using Amylite™ Red for the first time, thaw the labeling dye at room temperature and briefly centrifuge to gather the dried pellet.

Protocol Summary

1. Prepare the tissue slides.
2. Add the Amylite™ Red working solution to the tissue sections.
3. Incubate at room temperature for 3 to 5 minutes.
4. Wash slides with 40% ethanol.
5. Conduct counterstaining with DAPI as needed.
6. Mount the samples with a suitable mounting medium. Then, monitor the staining using a fluorescence microscope with a Cy3 filter set.

KEY PARAMETERS

Fluorescence microscope

Emission	660 nm
Excitation	510 nm
Recommended plate	Black wall/clear bottom

PREPARATION OF STOCK SOLUTIONS

Unless otherwise noted, all unused stock solutions should be divided into single-use aliquots and stored at -20 °C after preparation. Avoid repeated freeze-thaw cycles

Amylite™ Red Stock Solution (100X)

1. To prepare a 100X Amylite™ Red stock solution, add 100 µL of DMSO to the Amylite™ Red vial.

   Note: Prepare a single aliquot of any unused Amylite™ Red stock solution and store it at ≤-20°C, protected from light. Avoid freeze/thaw cycles.

PREPARATION OF WORKING SOLUTION

Amylite™ Red Working Solution

1. Prepare the Amylite™ Red working solution by adding 10 µL of Amylite™ Red stock solution to 1 mL of 50% ethanol solution. Protect the Amylite™ Red working solution from light by covering it with foil or placing it in a dark location.

   Note: For optimal results, use this solution within a few hours of preparation.

   Note: 1 mL of the working solution is sufficient for 10 tests.

SAMPLE EXPERIMENTAL PROTOCOL

Tissue Preparation (Deparaffinization and Rehydration):

1. Wash the slides with Xylene for 3 minutes.
2. Wash the slides with 100% Ethanol for 1 minute.
3. Wash the slides with water for 2 minutes.

Tissue Staining

1. Add 100 µL of Amylite™ Red working solution to the tissue sections.

   Note: Ensure sufficient solution is added to thoroughly cover the tissue slides.

2. Incubate the slides at room temperature for 3 to 5 minutes.

   Note: The incubation time can be adjusted for optimal results.

3. Wash the tissue slides twice with 40% ethanol, for 5 minutes each time.
4. Use a suitable counterstain, such as DAPI, if needed.

5. Apply the mounting medium to the slides and allow them to dry.

6. Observe the slides using a fluorescence microscope equipped with a Cy3 filter set.

EXAMPLE DATA ANALYSIS AND FIGURES

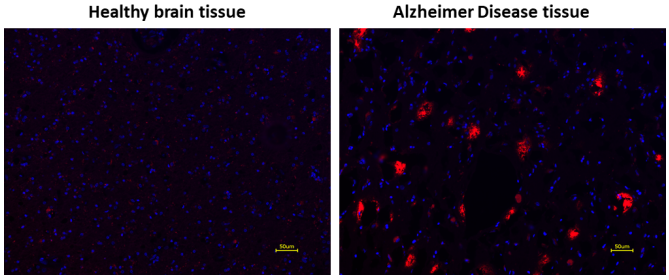

Figure 1. Amylite™ Red staining on healthy and Alzheimer's disease brain tissue with DAPI counterstain.

DISCLAIMER

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