

Amplite® Tyramide (TSA) Signal Booster

Catalog number: 44502
Unit size: 1000 Reactions

Component	Storage	Amount (Cat No. 44502)
Amplite® Tyramide (TSA) Signal Booster	Freeze (< -15 °C), Minimize light exposure	1 Vial

OVERVIEW

Tyramide signal amplification (TSA) is a technique used to enhance the signal of target molecules, such as antibodies or nucleic acid probes, in immunohistochemistry and in situ hybridization. This technique is particularly useful when working with samples that have low levels of target molecules or weak signals. TSA works by utilizing the enzymatic activity of horseradish peroxidase (HRP), which can catalyze the deposition of labeled tyramide molecules in close proximity to the target molecules. The tyramide molecules contain a reporter group, such as a fluorescent dye, which generates a detectable signal upon enzymatic reaction. This localized deposition of labeled tyramide molecules leads to signal amplification at the site of the target molecules, making them more easily detectable. There are a number of fluorescent tyramides available for TSA applications. However, some of the commercial tyramide conjugates have low signals. Amplite® Tyramide (TSA) Signal Booster is used to further enhance the TSA signal. It has been validated to enhance the TSA signal of tyramides prepared from Alexa Fluor® 350, 430, 450, 488, 514, 546, 568 and 594, Cy3, rhodamines, fluoresceins and coumarins.

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

1. Prepare a stock solution by adding 1 mL of DMSO to the Amplite® Tyramide (TSA) Signal Booster vial.

Note: Prepare a single unused aliquot of the stock solution and store it at ≤ -20 °C. Protect it from light and avoid repeated freeze-thaw cycles.

PREPARATION OF WORKING SOLUTION

1. Add 10 µL of Amplite® Tyramide Signal Booster stock solution to 1 mL of the tyramide working solution.

Note: For best results, this solution should be used within a few hours of its preparation.

SAMPLE EXPERIMENTAL PROTOCOL

1. Use the tyramide working solution containing Amplite® Tyramide Signal Booster on tissue samples according to the protocol described by the manufacturer of the tyramide reagent.

EXAMPLE DATA ANALYSIS AND FIGURES

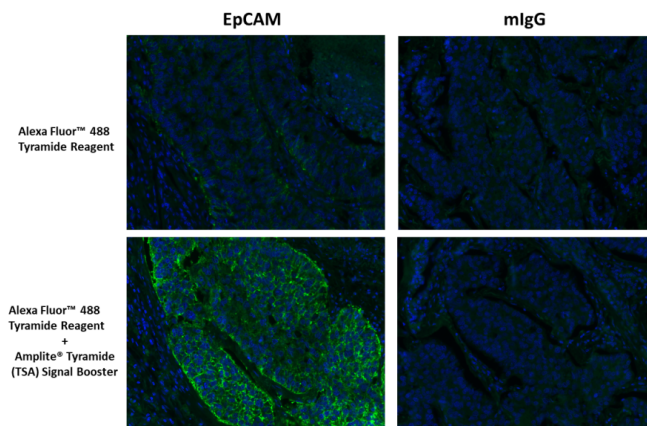


Figure 1. Immunofluorescent image of paraffin-embedded human lung carcinoma labeled with EpCAM Rabbit mAb followed with HRP-labeled goat anti-rabbit IgG (H+L) (Cat#16793). The signal was developed with Alexa Fluor™ 488 Tyramide Reagent (Green) with and without Amplite® Tyramide (TSA) Signal Booster. Cells were also counterstained blue with DAPI (Cat#17507).

DISCLAIMER

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