ReadiUse™ Tyramide (TSA)/Styramide (PSA) Optimized Reaction Buffer

Catalog number: 45090
Unit size: 1000 Reactions

Component	Storage	Amount
Component A: TSA/PSA buffer	Refrigerated (2-8 °C)	1 bottle (100 mL)
Component B: Stabilized 3% Hydrogen peroxide	Refrigerated (2-8 °C)	1 vial (100 µL)

OVERVIEW

For many immunohistochemical (IHC) applications, the traditional enzymatic amplification procedures are sufficient for achieving adequate antigen detection. However, several factors limit the sensitivity and utility of these procedures. Tyramide signal amplification (TSA) has proven to be a particularly versatile and powerful enzyme amplification technique with improved assay sensitivity. TSA is based on the ability of HRP, in the presence of low concentrations of hydrogen peroxide, to convert labeled tyramine-containing substrate into an oxidized, highly reactive free radical that can covalently bind to tyrosine residues at or near the HRP. Power Styramide™ Signal Amplification (PSA™) is a recent upgrade to the TSA system with improved fluorescence signal 10-50 times higher than the corresponding TSA reagents. This HRP-induced radical reaction buffer is optimized for running both TSA and PSA reactions.

AT A GLANCE

Protocol summary

1. Fix/permeabilize/block cells or tissue
2. Add primary antibody in blocking buffer
3. Add HRP-conjugated secondary antibody
4. Prepare Styramide™ (PSA) or Tyramide (TSA) working solution and apply in cells or tissue for 5-10 minutes at room temperature

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. Styramide™ (PSA) stock solution (100X)
Add 100 µL of DMSO into the vial of iFluor™ dye-labeled Styramide™ conjugate (for example cat#45000) to make 100X Styramide™ stock solution.

Note Make single use aliquots, and store unused 100X stock solution at 2-8 °C in dark place and avoid repeat freeze-thaw cycles.

2. H2O2 stock solution
Add 10 µL of 3% hydrogen peroxide (Component B) to 90 µL of ddH_2O.

Note Prepare the 100X H_2O_2 solution fresh on the day of use.

PREPARATION OF WORKING SOLUTION

Styramide™ (PSA) working solution (1X)
Every 1 mL of PSA working solution requires 1 mL TSA/PSA buffer (Component A), 10 µL of Styramide™ stock solution and 10 µL of H_2O_2 stock solution.

Note 1 mL is enough for 10 tests based on 100 µL of Styramide™ working solution needed per coverslip or per well in a 96-well microplate.

Note The Styramide™ working solution must be used within 2 hours after preparation and avoid direct exposure to light.

EXAMPLE DATA ANALYSIS AND FIGURES

Example data analysis and images of this product can be found on the web at: https://www.aatbio.com/products/readiuse-tyramide-tsa-styramide-psa-optimized-reaction-buffer

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