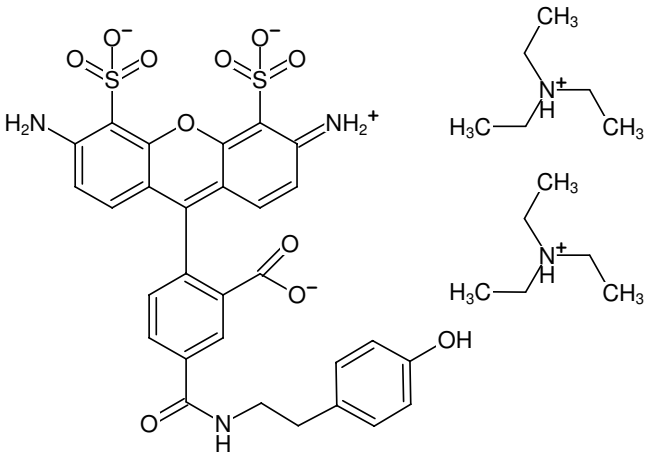
DATA SHEET

Jena Bioscience

AF488 tyramide reagent

also known as Alexa Fluor® 488 tyramide

Cat. No.	Amount
RNT-012	200 slides



Structural formula of AF488 tyramide reagent

For research use only!

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Additional Storage Conditions: store dark

Shelf Life: 12 months after date of delivery

Molecular Formula: $C_{41}H_{53}N_5O_{11}S_2$

Molecular Weight: 856.02 g/mol

Exact Mass: 855.32 g/mol

Purity: ≥ 95 % (HPLC)

Form: solid

Color: orange-red

Solubility: DMSO

Spectroscopic Properties: λ_{exc} 449 nm, λ_{em} 520 nm, ε 73.0 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Description:
Tyramide Signal Amplification (TSA) is a peroxidase-based signal amplification system that is compatible with all *in situ* hybridization (ISH), immunocytochemical (ICC) and immunohistochemistry (IHC) detection schemes involving horseradish peroxidase (HRP)-coupled detection reagents. An up to 100-fold increased assay sensitivity compared to conventional ISH, ICC and IHC methods allows the detection of low-abundance targets (e.g mRNA) while reducing primary & secondary detection reagents as well as hybridization probe concentration. The usage of poly-HRP-coupled detection reagents further increases assay sensitivity.

Principle of TSA labeling :
Hybridization probes are detected by (poly)-HRP-coupled detection reagents. TSA labeling is based on the ability of (poly)-HRP to activate multiple labeled tyramide substrates in the presence of low concentrations of hydrogen peroxide. The resulting highly reactive radicals subsequently bind to tyrosine residues at or near the HRP thereby generating high density tyramide labeling. AF488 (also known as Alexa Fluor® 488) tyramide can be detected with the standard FITC filter set.

Preparation of 200x AF488 tyramide stock solution:
Add 100 µl DMSO, vortex and spin-down briefly. Store at 2-8°C (dark) for up to 6 months (sealed vial, desiccated).

Preparation of 1x AF488 tyramide working solution:
Working solution can not be stored and should immediately be prepared before usage. Dilute 1:200 in a buffer compatible with your downstream protocol (e.g. Tris-HCl buffer, pH 7.4) containing 0.003% H_2O_2, vortex and spin-down briefly. **100 µl working solution is sufficient for one 18-mm × 18-mm slide**.

Labeling protocol:
Example reference for assay set-up:
Bobrow *et al.* Tyramide signal amplification (TSA) systems for the enhancement of ISH signals in cytogenetics. *Curr Protoc Cytom.* **8(8.9)**.