

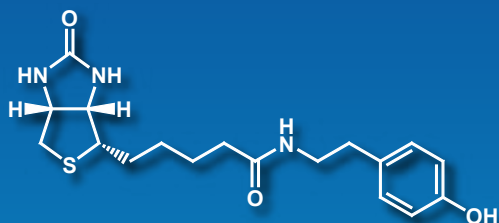
New

LIFE SCIENCE

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# Tyramide Signal Amplification (TSA) Reagents

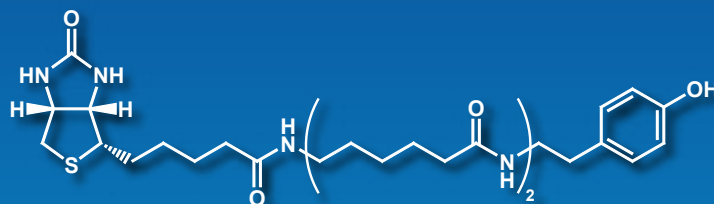
for detecting low abundance nucleic acids and proteins with high sensitivity



**Biotinyl Tyramide**

50mg / 200mg

[B6573]



**Biotin-XX-Tyramide**

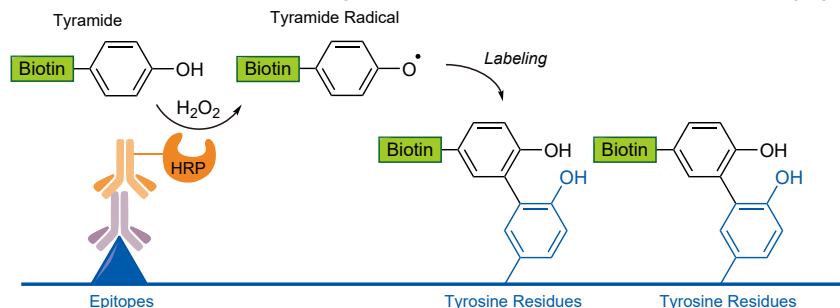
50mg / 200mg

[B6571]

Tyramide Signal Amplification (TSA) is a technique that enables the detection of low abundance proteins and nucleic acids that are difficult to detect. The mechanism of tyramide signal amplification is that, the inactive tyramides are converted to reactive tyramide radicals by redox enzymes such as HRP, which binds to proximity tyrosine residues and amplify the signal. Tyramide signal amplification is primarily used in immunohistochemistry (IHC) and fluorescence in situ hybridization (FISH). Recently, it has been applied not only to imaging, but also to highly sensitive detection of peptides with ELISA,<sup>1)</sup> colorimetric detection of bacteria using nanoparticles,<sup>2)</sup> and automatic ultrasensitive lateral flow immunoassay.

## Reaction image of tyramide signal amplification

Inactive tyramides are converted to reactive tyramide radicals and bound to proximity tyrosine residues.



- References 1) S. Goto, R. Morigaki, S. Okita, S. Nagahiro, R. Kaji, *Front. Neuroanat.* **2015**, *9*, 22. <https://doi.org/10.3389/fnana.2015.00022>  
2) Y. Zeng, D. Xu, Z. Mu, C. Li, C. Ji, X. Jia, G. Li, *ACS Appl. Mater. Interfaces* **2024**, *16*, 22865. <https://doi.org/10.1021/acami.4c00802>  
3) H. Jie, X. Cao, Q. Liu, et al., *Biosens. Bioelectron.* **2024**, *256*, 116262. <https://doi.org/10.1016/j.bios.2024.116262>

## Related Products

<b>Hematoxylin</b>	5g / 25g [H0006]
<b>DAB staining kit</b>	1kit [D5909]
<b>TMB [for ELISA] (Ready-to-use solution)</b>	100mL [T3854]
<b>Avidin / Biotin Blocking Kit</b>	1kit [A3665]
<b>Streptavidin FITC Conjugate</b>	1vial [S0966]
<b>Streptavidin R-PE Conjugate</b>	1vial [T3885]
<b>Goat Anti-Mouse IgG HRP Conjugate</b>	1vial [G0407]
<b>Goat Anti-Rabbit IgG HRP Conjugate</b>	1vial [G0418]
<b>Gold Nanospheres 40nm, Citrate stabilized (2mM), OD</b>	15mL [G0584]
<b>Alkyne Tyramide</b>	50mg [H1847]

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