

DESCRIPTION

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|---------------------|---|
| Formula | $C_{51}H_{79}N_{11}O_{25}P_2S_3$ |
| Molecular Weight | 1404.37 Da |
| Formulation | Lyophilized with Tris, at pH 8.0 |
| Storage & Stability | Store the unopened product at ≤ -20 °C. Good for 12 months from date of receipt. |

APPLICATIONS

- Fluorescent labeling with Cy3 of free glycans as well as glycoproteins and glycolipids.
- Fluorescent detection of specific glycan epitopes on glycoproteins as well as cell surface.
- Quantitation of fucosylation level of specific glycans.
- Together with CMP-Cy5-Sialic Acid, allows dual labeling and detection of sialoglycans.

KEY FEATURES & BENEFITS

- Excitation at 550 nm and emission at 570 nm, exhibits green fluorescent light under microscope.
- Can be directly introduced into glycoproteins and glycolipids via various fucosyltransferases.
- Can be introduced to live cells for glycan imaging.
- Have minimum side effect on target molecules.
- Very convenient and user-friendly.

For Details:

[Wu, ZL. et al., \(2020\) Glycobiology 30:970.](#)

RELATED REAGENTS

Click Chemistry

- [CMP-Cy3-Sialic Acid \(ES402\)](#)
- [GDP-Cy5-Fucose \(ES301\)](#)
- [CMP-Cy5-Sialic Acid \(ES302\)](#)
- [GDP-Azido-Fucose \(ES101\)](#)
- [CMP-Azido-Sialic Acid \(ES102\)](#)
- [UDP-Azido-GalNAc \(ES103\)](#)
- [UDP-Azido-GlcNAc \(ES104\)](#)
- [CMP-C9-Biotin-Sialic Acid \(ES201\)](#)

Enzymes and Detection Reagents

- [Various fucosyltransferases](#)
- [Various neuraminidase](#)
- [Various fucosidase](#)

SAMPLE PROTOCOL

For direct fluorescent glycan labeling with GDP-Cy3-Fucose. Protocols are guidelines. Parameters need to be optimized by end users.

OTHER MATERIALS REQUIRED

- Assay Buffer: 25 mM Tris, 10 mM MnCl₂, pH 7.5
- Sample protein
- Fucosyltransferases such as rhFUT9 ([R&D Systems® Catalog # 9347-GT](#))
- Protein sample loading dye
- SDS-PAGE and Western Blot reagents or equivalent
- Fluorescent Imager in a green fluorescent channel

FINAL ASSAY CONDITIONS PER REACTION

- Sample protein: 0.1 to 5 µg
- GDP-Cy3-Fucose: 0.2 nmol
- Fucosyltransferase: 0.5 µg

ASSAY PROCEDURE

1. Prepare a reaction mixture by combining 0.1 to 5 µg of a sample protein, 0.2 nmol GDP-Cy3-Fucose, 0.5 µg of a Fucosyltransferase such as FUT9, add Assay Buffer to the final volume to 30 µL.
2. Prepare a negative control by repeating above but omitting the fucosyltransferases.
3. Incubate all the reactions and controls at 37 °C for 60 minutes.
4. Stop the reactions and controls by adding appropriate volume of protein sample loading dye to each reaction.
5. Separate the reactions and controls by SDS-PAGE.
6. Image the gel with a fluorescent imager in a green fluorescent channel.
7. Image the gel with trichloroethanol (TCE) imaging (if TCE is incorporated into the gel) or any other regular protein gel imaging method such as Coomassie® blue staining or silver staining.