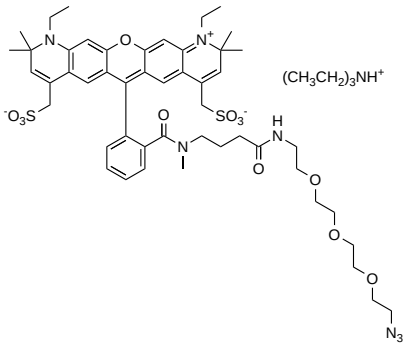
# AATOM™ 594 PEG3 azide

Catalog Number: 2840
Unit Size: 1 mg

## Product Details

| | |
|---|---|
| Storage Conditions | Freeze (< -15 °C), Minimize light exposure |
| Expiration Date | 12 months upon receiving |

## Chemical Properties

| | |
|---|---|
| Appearance | Solid |
| Molecular Weight | 1107.39 |
| Soluble In | DMSO |
| Chemical Structure |  |



## Spectral Properties

| | |
|---|---|
| Excitation Wavelength | 602 nm |
| Emission Wavelength | 621 nm |

## Applications

AATOM™ 594 is a bright, red fluorescent dye characterized by a strong absorption, high fluorescence quantum yield, and exceptional thermal and photostability. The dye exhibits superior water solubility and hydrophilicity, facilitating its use in various aqueous environments. AATOM™ 594 is optimally excited within the 560-615 nm range, making it compatible with both 561 nm and 594 nm laser lines commonly used in advanced fluorescence imaging systems. Upon conjugation to biomolecules, AATOM™ 594 becomes anionic, carrying a net charge of -1, which may influence its binding characteristics and performance in assays. Its photostability and brightness make it particularly suited for high-resolution techniques like single-molecule detection and super-resolution microscopy, including PALM, dSTORM, and STED. Additionally, AATOM™ 594 is highly compatible with flow cytometry (FACS), fluorescence in situ hybridization (FISH), and various other fluorescence-based assays, supporting its broad utility in complex biological studies.

The PEG3-azide derivative of AATOM™ 594 is widely used for labeling terminal alkynes on peptides, antibodies, and other biomolecules via click chemistry. It participates in copper-catalyzed azide-alkyne cycloaddition (CuAAC) with alkyne-containing molecules and strain-promoted alkyne-azide cycloaddition (SPAAC) with DBCO- or BCN-containing molecules. This product is manufactured by AAT Bioquest and is not affiliated with ATTO-TEC GmbH.