

PRODUCT INFORMATION



iFluor® 647 Azide

Item No. 44068

Ex./Em. Max: 656/670 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Light sensitive

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

iFluor® 647 azide is supplied as a solid. A stock solution may be made by dissolving the iFluor® 647 azide in the solvent of choice, which should be purged with an inert gas. Fluor® 647 azide is soluble in DMSO.

Description

iFluor® 647 azide is a fluorophore functionalized with azide, which reacts with alkynes, such as dibenzocyclooctyne (DBCO), to form a stable conjugate. It displays excitation/emission maxima of 656/670 nm, respectively. iFluor® 647 azide can be used for labeling alkyne-modified biological molecules for fluorescence imaging and other fluorescence-based biological applications.

Sample Experimental Protocol

Antibody-Oligo Conjugation: Antibody Activation with DBCO

- Reaction Setup:** Dissolve DBCO-NHS ester in DMSO at 10 mM. Use antibody at 1–10 mg/ml in a suitable buffer (e.g., PBS, pH ~7.4). In many SE-labeling protocols, 2 mg/ml or higher is standard; a range of 1–10 mg/ml is acceptable. Mix the antibody with a 20–30-fold molar excess of DBCO-NHS. Keep the final DMSO content at less than 20%.
- Incubate:** React at room temperature for 60 minutes.
- (Optional) Quench:** Typically, SE conjugations do not require a specific quench step and proceed directly to purification. However, if desired, add approximately 10 µl of 100 mM glycine (in water) to neutralize unreacted DBCO-NHS. Incubate for 15 minutes.

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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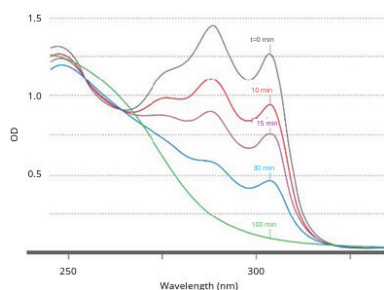
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Antibody-Oligo Conjugation: Click Chemistry with Azide-Oligonucleotide

1. **Set up Reaction:** Mix the DBCO-antibody with a 2-4-fold molar excess of azide-modified oligonucleotide (or azide-labeled dye). Recommended solvent: PBS or similar buffer with up to 20% DMSO. Avoid sodium azide.
2. **Incubate:** Incubate 2-4 hours at room temperature (or overnight at 4°C) to ensure complete reaction.
3. **Validation:** Check conjugate formation via SDS-PAGE. The antibody-oligo conjugate should show a higher molecular weight band than the unmodified antibody.
4. **Purification:** Remove excess oligonucleotide or dye by liquid chromatography (e.g., reverse-phase or ion-exchange HPLC) or another appropriate method.

Experimental Analysis Image



Real-time UV-Vis monitoring of the SPAAC (DBCOAzide) reaction at various time points (0-100 min). The initial black spectrum (t=0 min) shows a pronounced DBCO peak near 310 nm, which progressively diminishes as the reaction proceeds. By 100 min (green line), the 310 nm peak is significantly reduced, indicating extensive consumption of DBCO.

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