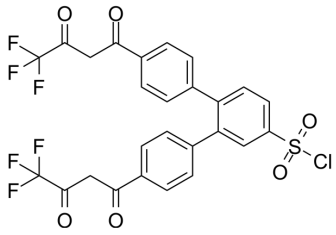
BTBCT

Cat. No.:	HY-D0038
CAS No.:	525560-81-0
Molecular Formula:	$C_{26}H_{15}ClF_6O_6S$
Molecular Weight:	604.9
Target:	Fluorescent Dye
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	BTBCT is mainly used as a label in time-resolved fluorescence immunoassays (TRFIA). The lower limit of detection for TSH TR-IFMA is 0.011 mIU/L in a 10 µl sample volume. The high fluorescence intensity and stability of BTBCT improves the sensitivity of the assay[1].
In Vitro	Protein labeling with BTBCT 1、Dissolve BTBCT at a concentration of 10 mg/mL in dry ethanol. 2、Dissolve the target protein (e.g., BSA or streptavidin) in 0.1 M sodium carbonate buffer to the desired concentration, typically 1 mg/mL. 3、Gradually add the BTBCT solution to the protein solution while stirring. 4、Maintain stirring at room temperature for 2 hours. 5、Filter the mixture using an appropriate size filter (usually 0.2 µm). 6:If necessary, further purify the labeled protein via affinity chromatography to ensure that only functionalized protein is collected. 7:Dialyze the purified protein against a suitable storage buffer (commonly containing 0.05% NaN3). 8:Store at 4°C or freeze as needed. Indirect Serum TSH TR-IFMA Procedure: 1: Coating the Microplate: Add 30 µL of coating buffer containing 15 µg/mL of anti-TSH McAb-05 to each well. Incubate at room temperature for 24 hours. Wash twice with wash buffer. 2: Blocking: Add 40 µL of blocking buffer (typically containing BSA or another protein) and incubate at room temperature for 6 hours. Wash and air dry. 3:Adding Samples and Standards: Add 10 µL of TSH standard or serum sample to be tested to each well. Add 10 µL of a mixture containing biotinylated anti-TSH McAb-04 and McAb-03 at a concentration of about 30 ng/µL. Incubate with gentle shaking at room temperature for 1 hour. 4:Washing: Thoroughly wash the microplate with wash buffer. Adding Signal Generation Reagent: Add 20 µL of TSH assay buffer containing streptavidin-BSA-BTBCT-Eu complex to each well. Gently shake and incubate for another 20 minutes. 5: Final Washing: Wash four times and rinse twice with distilled water. 6: Fluorescence Measurement: Measure the fluorescence intensity of each well using a time-resolved fluorometer. Direct Serum T4 TRFIA Procedure:1: Microplate Preparation: Use a microplate coated with anti-T4 antibody, typically at a concentration of 10 µg/mL. Incubate the coated antibody at 4°C overnight. 2: Blocking Non-Specific Sites: Block the microplate with blocking buffer (usually containing 1% BSA) at room temperature for 1-2 hours.

	3: Adding Samples and Label: Add a predetermined amount of the labeled T4-BSA-BTBCT-Eu complex along with the serum sample to be tested or T4 standard to each well. 4: Competition Reaction: Incubate the plate at room temperature for 1-2 hours. 5: Washing: Thoroughly wash the microplate with wash buffer. 6: Fluorescence Measurement: Measure the fluorescence signal of each well using a time-resolved fluorometer. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wu FB et al. new europium beta-diketone chelate for ultrasensitive time-resolved fluorescence immunoassays. Anal Biochem. 2002 Dec 1;311(1):57-67

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