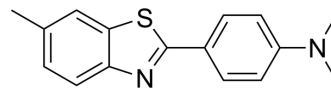


## BTA-2

<b>Cat. No.:</b>	HY-W176465
<b>CAS No.:</b>	10205-62-6
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>16</sub> N <sub>2</sub> S
<b>Molecular Weight:</b>	268.38
<b>Target:</b>	Amyloid-β
<b>Pathway:</b>	Neuronal Signaling
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

<b>Description</b>	BTA-2, a benzothiazole dye, is structurally similar to thioflavin T (ThT), which exhibits an enhanced fluorescence signal when bound to amyloid fibrils. BTA-2 has distinct absorption and emission characteristics in solution and when bound to amyloid fibrils, which makes it can used for identifying amyloid fibrils using spectroscopy <sup>[1]</sup> .
<b>In Vitro</b>	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <p>To research how CH<sub>3</sub>CN affects binding of amyloid fibrils (varied the amount of CH<sub>3</sub>CN but maintained the same concentration of BTA-2, fibrils, and water) and how the concentration of BTA-2 affects binding (varied the amount of BTA-2 but had a constant amount of CH<sub>3</sub>CN, fibrils, and water) <sup>[1]</sup>.</p> <p>BTA-2 in solution and in the presence of amyloid fibrils:</p> <ol style="list-style-type: none"> <li>1. Insulin obtains from a bovine pancreas, and is stored at -20°C in a desiccator.</li> <li>2. To synthesize BTA-2 and further purified.</li> <li>3. To prepare fibrils: Insulin is dissolved in pH 2 water (5 mg/mL) and filters through a 0.2 μm filter, heats at 60°C for 24 h. Centrifuge at 3000 rpm for 2.5 min to remove any globular artifacts. The supernatant containing the fibrils is saved for later use. Solutions are stored in a refrigerator (10°C) until needed.</li> <li>4. BTA-2/fibrils solutions (are prepared in two ways): (First way) Diluting (100 μL) of the stock fibril solution with 880 μL of pH 2 water, adding (20 μL) of 0.8 mg/mL (3.15 mM) BTA-2 in CH<sub>3</sub>CN. (Second way) Diluting (100 μL) of the stock fibril solution with a 1:1 mixture of nanopure water: CH<sub>3</sub>CN, adding (20 μL) of 0.8 mg/mL (3.15 mM) BTA-2.</li> <li>5. Two similar solutions are made that contained only the BTA-2 without the fibrils.</li> <li>6. The standard amyloid fluorescent marker is thioflavin T (ThT): 20 μL of 0.8 mg/mL (2.51 mM) ThT in CH<sub>3</sub>CN and 100 μL of stock fibril solutions is diluted with 880 μL of pH 2 water.</li> <li>7. The emission spectra of BTA-2 in pH 2 water excited at 430 nm and excited at 360 nm, respectively.</li> </ol> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## REFERENCES

[1]. Catherine C Kitts, et al. A spectroscopic study of 2-[4'-(dimethylamino)phenyl]-benzothiazole binding to insulin amyloid fibrils. J Fluoresc. 2010 Jul;20(4):881-9.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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