

Cypate hydrochloride

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Cypate is a near-infrared fluorescent dye that belongs to the family of photosensitizers. It is characterized by high photostability and optical properties, making it a common choice for near-infrared optical imaging, optical development, tumor labeling, and drug delivery applications. Moreover, Cypate serves as a molecular probe and binds with targeting molecules (such as CBT or small interfering RNA) to enable efficient detection and imaging of specific cells or tissues.
Targets(IC50)	Others
In vitro	In research, the compound Cypate is coupled with upconversion nanoparticles (UCNP-cy) and loaded with small interfering RNA genes targeting heat shock protein 70 (UCNP-cy-siRNA), which can cause damage to target cells and exhibit antitumor effects. Cypate is also linked with CBT (Cysteine-containing Peptide Backbone Tag) for tracking, labeling, and imaging specific biomolecules or cells. For instance, Cypate-CBT acts as a near-infrared photoacoustic (PA) probe, allowing for specific imaging and real-time tracking of cathepsin B (CTSB) activity in CTSB-overexpressing cells and tumors. Upon entry into these cells, Cypate-CBT undergoes glutathione reduction and CTSB cleavage, forming cypate nanoparticles, known as Cypate-CBT-NPs, which enhance the intensity and retention time of the PA signal at the tumor site. Therefore, Cypate-CBT has potential as an effective PA imaging agent for early cancer clinical diagnosis.

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