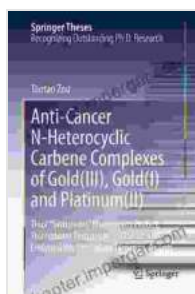


Thiol Switch On Fluorescent Probes Thioredoxin Reductase Inhibitors Targeting

Thiol switch on fluorescent probes are a powerful tool for the targeting of thioredoxin reductase inhibitors. These probes are designed to selectively react with thiols, which are found in high concentrations in the active site of thioredoxin reductase. When the probe reacts with a thiol, it undergoes a chemical reaction that turns on its fluorescence. This allows researchers to visualize the location of thioredoxin reductase in cells and to study its activity.



Anti-Cancer N-Heterocyclic Carbene Complexes of Gold(III),Gold(I) and Platinum(II): Thiol “Switch-on” Fluorescent Probes, Thioredoxin Reductase Inhibitors ... Targeting Agents (Springer Theses) by Stephen M. Roberts

★★★★☆ 4.6 out of 5

Language : English
File size : 8361 KB
Text-to-Speech : Enabled
Enhanced typesetting : Enabled
Print length : 263 pages
Screen Reader : Supported

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Thiol switch on fluorescent probes have been used to identify new thioredoxin reductase inhibitors and to study the mechanisms of action of these inhibitors. These probes have also been used to develop new diagnostic tools for cancer and other diseases.

How Thiol Switch On Fluorescent Probes Work

Thiol switch on fluorescent probes are typically composed of a fluorophore, a thiol-reactive group, and a linker. The fluorophore is responsible for emitting light when the probe is excited by light. The thiol-reactive group is responsible for reacting with thiols. The linker connects the fluorophore and the thiol-reactive group.

When the thiol switch on fluorescent probe reacts with a thiol, the thiol-reactive group undergoes a chemical reaction that changes the structure of the probe. This change in structure causes the fluorophore to emit light. The amount of light that is emitted is proportional to the concentration of thiols in the sample.

Applications of Thiol Switch On Fluorescent Probes

Thiol switch on fluorescent probes have a wide range of applications in biology and medicine. Some of the most common applications include:

- **Identifying new thioredoxin reductase inhibitors:** Thiol switch on fluorescent probes can be used to screen for new thioredoxin reductase inhibitors. These probes can be used to identify inhibitors that bind to the active site of thioredoxin reductase and prevent it from functioning.
- **Studying the mechanisms of action of thioredoxin reductase inhibitors:** Thiol switch on fluorescent probes can be used to study the mechanisms of action of thioredoxin reductase inhibitors. These probes can be used to visualize the location of thioredoxin reductase in cells and to study its activity.

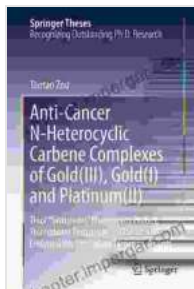
- **Developing new diagnostic tools for cancer and other diseases:**
Thiol switch on fluorescent probes can be used to develop new diagnostic tools for cancer and other diseases. These probes can be used to detect the presence of thioredoxin reductase in cells and to measure its activity.

Thiol switch on fluorescent probes are a powerful tool for the targeting of thioredoxin reductase inhibitors. These probes have a wide range of applications in biology and medicine. They are being used to identify new thioredoxin reductase inhibitors, to study the mechanisms of action of these inhibitors, and to develop new diagnostic tools for cancer and other diseases.

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