Compounds that selectively target cancer cells with improved potency

Technology #cu12324

Many cancer chemotherapies kill all dividing cells, whether cancerous or healthy, and this can result in undesirable side effects. Many efforts have been made to target cellular pathways that are unique to cancerous cells. This technology describes a family of small molecules that specifically target cells possessing the characteristically oncogenic group of mutations known as RAS mutations. These highly stable small molecule compounds are able to target such cells with good potency and good in vivo activity. These compounds are promising precursors to effective cancer drugs.

Triggering ferroptosis: a distinct pathway for cell death

Some types of cancer cells tend to be rich in iron, and there exists a distinct iron-related pathway to trigger cell death known as ferroptosis. The RAS mutation is related to this pathway. The technology reported here is a family of small molecule compounds that are related to (but distinct from) the known compound erastin. This technology improves on erastin by offering better potency, better stability, and better in vivo activity. This technology has the potential to be developed into a powerful anti-cancer drug. This technology has been tested with in vivo models.

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Applications:

- Anti-cancer drugs
- Intracellular iron studies
- Other programmed cell-death studies
Advantages:

- Improved potency
- Improved stability
- Improved in-vivo activity

Patent Information:

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Related Publications:


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