Method for Inhibiting the Proliferation of Cancer Cells with Stem Cell Properties

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Technology description

Invention Summary

The chemical inhibitors developed selectively target cancer cells with stem cell properties (cancer stem cells) and have no effect on normal somatic cells. The presence of Sox2—a unique tumor marker—is identified in various lung, breast, ovarian, gastric, brain, leukemia, kidney, and liver cancers, and is sufficient to confer sensitivity to the chemical inhibitors. LSD1 and HDAC1 inhibitors are used to inhibit the growth of Sox2-expressing cancer cells and cancer stem cells.

Market Opportunity

Sox2 is identified not only in lung, breast, ovarian, brain, colon, brain, liver, gastric, and kidney carcinomas, but also in other blood born cancers such as leukemia. Currently, there is no cancer therapy for Sox2-expressing cancers. Targeting cancer cells with stem cell properties is an unmet medical demand because these cancer cells are usually more resistant to conventional chemo and radiation therapy, causing high recurrence.

Advantages

● The method identifies the existence of Sox2 stem cell markers in a patient and introduces the chemical inhibitors to suppress gene expression of cancer cells.

● The inhibitors are given to the patient by infusion, perfusion, ingestion, or intravenous introduction, and by application of a liquid or gel. The liquid or gel comprises a transdermal carrier.

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