Trefoil proteins for prophylactic therapy and treatment of gastric cancers

Technology #cu12276

Developing effective therapies against cancer remains one of the greatest challenges of modern medicine; greater still is the challenge in eradicating the most aggressive forms of cancer. One emerging strategy to combat aggressive cancers is the use of prophylactic treatments that prevent cancer growth before it begins while simultaneously combating existing tumors. Such therapies have been limited by their extreme specificity, restricting their applicability across multiple cancer types. This technology describes the use of trefoil family factor 2 (TFF2), a trefoil protein that has strong tumor-suppressor qualities. Treatment with TFF2 is strongly suppressive of multiple tumor types and acts as both a prophylactic and therapeutic in gastric cancers. This technology could offer new therapies for patients at high genetic risk for cancers or new treatment options for patients with existing gastrointestinal cancers.

TFF2 protein is a versatile, safe, tumor-suppressing cancer treatment

This technology achieves the impressive feat of preventing tumors and treating existing ones by inhibiting the growth of key cell types necessary for cancer growth and survival. In particular, TFF2 inhibits the growth of myeloid progenitor cells, which are amplified in many cancers. Additionally, TFF2 acts as an anti-inflammatory agent, further restricting the growth of cancerous cells. TFF2 accomplishes such diverse tasks by mimicking the activity of natural trefoil proteins in the body, lending itself to improved tolerance in patients and minimal side effects. Since myeloid progenitor cells and inflammation are hallmarks of cancer in many tissue types, it is expected that TFF2 will have efficacy against many cancers regardless of their tissue-of-origin. The strong anti-tumor properties of TFF2 and its broadly applicable mechanism of action suggest a potentially larger market for TFF2 than other immunotherapies.

In a mouse model of intestinal tumor growth, mice administered TFF2 did not grow gastric tumors and exhibited no side effects, demonstrating the efficacy and safety of TFF2 as a therapeutic agent.

Lead Inventor:

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Applications:

- Cancer treatment for patients with non-solid or inoperable tumors
- Prophylactic therapy for high-risk gene carriers
- Anti-inflammatory agent in gastric disease
- Cancer treatment for intestinal/gastric cancers
- Alternative cancer treatment for which all others are intolerable

Advantages:

- Minimal side effects
- Widely applicable to many forms of gastrointestinal cancers
- Many dosing and delivery methods are possible
- Functions both as a prophylactic or traditional treatment

Patent Information:


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Related Publications:


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