



[cancer.org](http://cancer.org) | 1.800.227.2345

## Recombinant Bovine Growth Hormone (rBGH)

**Recombinant bovine growth hormone (rBGH)**, also known as **recombinant bovine somatotropin (rBST)**, is used by some dairy farmers to increase milk production in cattle (cows). It was first approved for use in the United States by the Food and Drug Administration (FDA) in 1993, but its use is not permitted in the European Union, Canada, and some other countries.

- [What is recombinant bovine growth hormone \(rBGH\)?](#)
- [What have been the health concerns in humans?](#)
- [IGF-1 in milk and meat from rBGH-treated cows](#)
- [Regulatory status](#)
- [Summary](#)

### What is recombinant bovine growth hormone (rBGH)?

**Recombinant bovine growth hormone (rBGH)** made in a lab using genetic technology. **Growth hormone** (also called **somatotropin**

(IGF-1). IGF-1 is a hormone that normally helps some types of cells to grow.

## What have been the health concerns in humans?

There are 2 main concerns about possible health effects on humans from milk and meat produced using rBGH.

The first concern focuses on whether drinking milk or eating meat from rBGH-treated cows increases blood levels of growth hormone or IGF-1 in people, and if it does, if there are any health effects, including increasing the risk of cancer.

Another health concern has been that cows treated with rBGH tend to develop more udder infections (mastitis). These cows are given more antibiotics compared to cows not given rBGH. Whether this increased use of antibiotics leads to more antibiotic-resistant bacteria remains a concern, but it has not been fully studied in humans.

## IGF-1 in milk and meat from rBGH-treated cows

It's important to know that BGH is not active in humans, so even if rBGH were absorbed from drinking milk or eating meat, it wouldn't be expected to cause health effects.

While BGH levels are not significantly higher in milk and meat from rBGH-treated cows, their milk and meat have higher levels of IGF-1. Several studies have found that IGF-1 levels at the high end of the normal range may influence the development of certain tumors.

Some early studies found a possible link between blood levels of IGF-1 and the development of [prostate](#)<sup>1</sup>, [breast](#)<sup>2</sup>, [colorectal](#)<sup>3</sup>, and other cancers, but later studies have failed to confirm these reports or have found weaker relationships. While there may be a link between IGF-1 blood levels and cancer, the exact nature of this link remains unclear.

In summary, it's not clear that drinking milk or eating meat produced with rBGH



Giovannucci E, Pollak M, Liu Y, et al. Nutritional predictors of insulin-like growth factor I and their relationships to cancer in men. *Cancer Epidemiol Biomarkers Prev.*2003;12:84-89.

bst on August 28, 2023.

World Health Organization. Joint FAO/WHO Expert Committee on Food Additives (JECFA). Toxicological evaluation of certain veterinary drug residues in food. Monograph 41. 1998. Accessed at [www.inchem.org/documents/jecfa/jecmono/v041je11.htm](http://www.inchem.org/documents/jecfa/jecmono/v041je11.htm) on June 17, 2014.

Last Revised: May 29, 2024

### **Written by**

The American Cancer Society medical and editorial content team  
(<https://www.cancer.org/cancer/acs-medical-content-and-news-staff.html>)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as editors and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy ([www.cancer.org/about-us/policies/content-usage.html](http://www.cancer.org/about-us/policies/content-usage.html)).

**cancer.org | 1.800.227.2345**