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Memorial Sloan Kettering  
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There are no clinical data to support use of GCP for cancer prevention or treatment.

Genistein Combined Polysaccharide (GCP) is composed of genistein, a soy isoflavone, and polysaccharides derived from Basidiomycetes mushrooms. Genistein has been studied extensively in laboratory experiments. When directly applied to several types of cancer cells (including estrogen receptor (ER+) and (ER-) breast cancer, prostate cancer, neuroblastoma and sarcoma), genistein inhibits their growth and replication. Genistein also competes with the body's own estrogen and inhibits the ability of a growth factor called EGF to stimulate its receptor and cause downstream cellular effects. Estrogen and EGF can enhance the growth of certain tumors (such as ER+ breast cancer), so it is thought that genistein may act against them to slow tumor growth.

Laboratory research suggests that the polysaccharides in Basidiomycetes mushrooms can slow the growth of tumors, enhance certain activities of immune cells, and kill some bacteria and viruses on contact.

Case reports showed complete regression of T3 prostate cancer following treatment with GCP; and supplementation with GCP prevented recurrence of transitional cell carcinoma (TCC) of the bladder. But GCP was not effective in lowering PSA levels in men with low-volume prostate cancer. Large scale clinical trials are needed to verify its anticancer potential.

## What are the potential uses and benefits?

- To prevent and treat cancer  
Genistein shows anti-tumor activity in the laboratory setting, but the same has not been shown for GCP.
- To treat prostate and bladder cancer  
Case reports show benefit of GCP, but clinical trials are lacking.

# What else do I need to know?

Do Not Take if:

- You are undergoing chemotherapy with tamoxifen (Studies in animals suggest that genistein may lessen its effects). Clinical relevance is not known.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

GCP - Last updated on August 9, 2023

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