

Ready to start planning your care? Call us at [800-525-2225](tel:800-525-2225) to make an appointment.

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Memorial Sloan Kettering  
Cancer Center

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Proteolytic enzymes have not been shown to prevent or treat cancer.

Proteolytic enzyme (PE) treatments were first used in Germany in the 1960s for inflammation, osteoarthritis, autoimmune diseases, and viral infections. The products usually contain a mixture of pancreatin, papain, [bromelain](#), trypsin, and chymotrypsin.

Lab studies suggest that PEs can affect the growth of cancer cells. Although PEs were previously reported to benefit patients with cancer, more recent studies do not support such claims. However, PEs may be useful in reducing pain associated with moderate-to-severe knee osteoarthritis.

## What are the potential uses and benefits?

- Inflammation  
Observational studies suggest benefit, but clinical data are lacking.
- Autoimmune diseases  
Evidence is lacking to support this claim.
- Viral infections  
Evidence is lacking to support this claim.
- Cancer and treatment-related symptoms  
Data from clinical studies are conflicting.
- Hepatitis C  
Evidence is lacking to support this claim.

## What are the side effects?

- Gastrointestinal disturbance
- See also [Bromelain](#)

## What else do I need to know?

Do Not Take if:

You are taking anticoagulants (warfarin): Bromelain may increase bleeding risk due to its antithrombotic effects observed in lab experiments <sup>(17)</sup>, but clinical relevance is not known.

See additional [bromelain interactions](#).

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.

Proteolytic enzymes - Last updated on February 2, 2022

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