Filgrastim

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Brand name: Neupogen®
IUPAC: Human granulocyte colony stimulating factor
FDA approval: Yes
Manufacturer Link
Usage:

Chemotherapy drugs attack all fast dividing cells, both cancerous and normal, such as the gastrointestinal (digestive) tract and bone marrow stem cells. White blood cells are formed in bone marrow. Depletion of these immunologic cell counts can dip to dangerously low levels (a condition called neutropenia) as a result of chemotherapy. This can reduce immunity and allow dangerous infections to develop.1 Filgrastim (Neupogen®) is used to treat this neutropenia and thus help prevent the development of dangerous infections. Filgrastim is administered as an injection. Some doctors begin injections only if the white blood cell count drops to potentially dangerous levels while others choose to begin injections when chemotherapy is begun as a preventative measure.

1 Neupogen. 2016. http://www.neupogen.com/about/

Mechanism:

Filgrastim stimulates the production of white blood cells, called neutrophils because it mimics the activity of a naturally occurring bodily substance called G-CSF. Filgrastim causes rapid maturation of white blood cells, which can more quickly transform into neutrophils that help conquer bacteria and other issues in the blood stream.1

1 Neupogen. 2016. http://www.neupogen.com/about/

Side effects:

The most common side effects of Filgrastim include: redness, swelling or other issues around the injection site, bone, joint or muscle pain and headache.1

1 Filgrastim. MedlinePlus. https://medlineplus.gov/druginfo/meds/a692033.html