

FILGRASTIM, PEGFILGRASTIM, LIPEGFILGRASTIM

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| SYNONYMS | rG-CSF |
| BRAND NAME | NEUPOGEN, NIVESTIM, ZARZIO (filgrastim) Nivestim and Zarzio are biosimilar products to Neupogen FULPHILA, NEULASTA, PELGRAZ, RISTEMPA, TEZMOTA, ZIEXTENZO (pegfilgrastim) Fulphila, Pelgraz, Ristempa, Tezmota and Ziextenzo are biosimilar products to Neulasta LONQUEX (lipegfilgrastim) |
| DRUG CLASS | Granulocyte-colony stimulating factor |
| AVAILABILITY | Neupogen vial contains 300 microgram/mL or 480 microgram/1.6 mL of filgrastim . Prefilled syringe contains 300 microgram/0.5 mL or 480 microgram/0.5 mL of filgrastim. Also contains sodium acetate, sorbitol and polysorbate-80. ¹ Nivestim prefilled syringe contains 120 microgram/0.2 mL, 300 microgram/0.5 mL or 480 microgram/0.5 mL of filgrastim . Also contains sodium acetate, sorbitol and polysorbate-80. ¹ Zarzio prefilled syringe contains 300 microgram/0.5 mL or 480 microgram/0.5 mL of filgrastim . Also contains glutamic acid, polysorbate-80, sorbitol and sodium hydroxide. ¹ Fulphila, Neulasta, Pelgraz, Ristempa, Tezmota and Ziextenzo prefilled syringes contain 6 mg/0.6 mL of pegfilgrastim . Also contain sorbitol, polysorbate-20 and sodium acetate or acetic acid and may contain sodium hydroxide. ¹ Lonquex prefilled syringe contains 6 mg/0.6 mL of lipegfilgrastim . Also contains sodium acetate, sorbitol, polysorbate-20, acetic acid and sodium hydroxide. ¹ The solutions are clear and colourless. Zarzio may be slightly yellow. ¹ |
| WARNING | Filgrastim, pegfilgrastim and lipegfilgrastim are not interchangeable. Pegfilgrastim and lipegfilgrastim are long-acting forms of filgrastim, given as a single dose per cycle of chemotherapy. |
| pH | 4–5 ¹ |
| PREPARATION | Not required. Allow to reach room temperature before use. Do not shake. ¹ |
| STABILITY | Vial and prefilled syringe: store at 2 to 8 °C. ¹ Stability at room temperature: ¹ Neupogen, Zarzio, Neulasta, Ristempa, Tezmota, Lonquex – 72 hours Ziextenzo – 120 hours Nivestim, Pelgraz – 15 days Infusion solutions of filgrastim (all brands) are stable for up to 24 hours at 2 to 8 °C. ¹ If pegfilgrastim products are accidentally frozen, allow the syringe to thaw in the fridge. If frozen a second time, discard the syringe. ¹ <i>continued over the page</i> |

ADMINISTRATION

IM injection Not recommended

SUBCUT injection Inject undiluted into the abdomen or thigh. Rotate the site of injection. Suitable for self-administration after appropriate patient education.^{1,2}

Filgrastim only: for continuous subcutaneous infusion dilute to a concentration of 15 microgram/mL or more with glucose 5%.¹

IV injection Not recommended

IV infusion **Filgrastim only:** dilute with 25–50 mL of glucose 5% and infuse over 15 to 30 minutes or as a longer infusion over 4 to 24 hours.¹

If the concentration is less than 15 microgram/mL add albumin at a concentration of 2 mg/mL to prevent loss from adsorption to plastic.¹

Do not dilute to less than 5 microgram/mL.¹

IV use for infants and children **Filgrastim only:** dilute the dose in 10–25 mL of glucose 5% and infuse over 15 to 30 minutes. May be also be given as a longer or continuous infusion.

If the concentration is less than 15 microgram/mL add albumin at a concentration of 2 mg/mL to prevent adsorption of filgrastim to the container. Do not dilute to less than 5 microgram/mL.^{1,3}

COMPATIBILITY

Fluids Glucose 5%^{1,4}

Drugs At **30 microgram/mL** of filgrastim: aciclovir⁴, amikacin⁴, aminophylline⁴, ampicillin⁴, aztreonam⁴, buprenorphine⁴, calcium folinate⁴, calcium gluconate⁴, cefazolin⁴, ceftazidime⁴, ceftolozane-tazobactam⁴, dexamethasone⁴, droperidol⁴, fluconazole⁴, ganciclovir⁴, granisetron⁴, hydrocortisone sodium succinate⁴, hydromorphone⁴, mesna⁴, metoclopramide⁴, morphine sulfate⁴, pethidine⁴, posaconazole¹, potassium chloride⁴, promethazine⁴, ranitidine⁴, sodium bicarbonate⁴, tobramycin⁴, trimethoprim-sulfamethoxazole⁴, vancomycin⁴, zidovudine⁴

INCOMPATIBILITY

Fluids Sodium chloride 0.9%^{1,4}, sodium chloride 0.45%⁴

Drugs Cefepime⁵, cefotaxime⁴, cefoxitin⁴, ceftaroline fosamil⁴, ceftriaxone⁴, clindamycin⁴, furosemide⁴, heparin sodium⁴, isavuconazole⁴, mannitol⁴, methylprednisolone sodium succinate⁴, metronidazole⁴

SPECIAL NOTES

Splenic rupture has been reported and although rare it may be fatal. If the patient reports upper abdominal pain or shoulder tip pain, they should be evaluated for enlarged spleen or splenic rupture.¹

The needle covers of prefilled Neupogen, Neulasta, Nivestim, Pelgraz, Ristempa and Tezmota syringes contain latex.¹

REFERENCES

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3. Phelps S, Hagemann TM, Lee KR, Thompson AJ. Pediatric injectable drugs. 11th ed. Bethesda, MD: Am Soc Health-System Pharmacists; 2018.
4. McEvoy GK editor. Handbook on injectable drugs. 20th ed. Bethesda, MD: American Society of Health-System Pharmacists; 2018.
5. Filgrastim. In: IV index [internet]. Trissel's 2 clinical pharmaceuticals database (parenteral compatibility). Greenwood Village, CO: Truven Health Analytics. Accessed 04/07/2019.