



# Summary of Investigation Results

## Pegfilgrastim (genetical recombination), filgrastim (genetical recombination including follow-on biologics), and lenograstim (genetical recombination)

June 5, 2018

### Non-proprietary name

- a. Pegfilgrastim (genetical recombination)
- b. Filgrastim (genetical recombination, including follow-on biologics) (See Attachment)
- c. Lenograstim (genetical recombination)

### Branded name (Marketing authorization holder)

- a. G-Lasta Subcutaneous Injection 3.6 mg (Kyowa Hakko Kirin Co., Ltd.)
- b. Gran Injection 75, 150, Gran Injection M300, Gran Syringe 75, 150, Gran Syringe M300 (Kyowa Hakko Kirin Co., Ltd.) and the other follow-on biologics (See Attachment)
- c. Neutrogin Injection 50 µg, 100 µg, 250 µg (Chugai Pharmaceutical Co., Ltd.)

### Indications

See Attachment

### Summary of revision

“Large vessel vasculitis (Inflammation in the aorta, common carotid artery, subclavian artery, or other large vessels)” should be added to the Clinically Significant Adverse Reactions section.



## **Investigation results and background of revision items**

Cases of large vessel vasculitis have been reported in patients treated with pegfilgrastim (genetical recombination), filgrastim (genetical recombination, including follow-on biologics), or lenograstim (genetical recombination) in Japan. MHLW/PMDA concluded that revision of the package insert was necessary based on the results of their investigation of the currently available evidence and in consultation with expert advisors.

## **Number of adverse reactions and patient mortalities reported in Japan during the previous 3 fiscal years**

- a. A total of 16 cases involving large vessel vasculitis have been reported to date (including 11 cases for which a causal relationship with the product could not be ruled out.) No patient mortalities have been reported to date.
- b. A total of 2 cases involving large vessel vasculitis have been reported to date (including 1 case for which a causal relationship with the product could not be ruled out.) No patient mortalities have been reported to date.
- c. A total of 2 cases involving large vessel vasculitis have been reported to date (a causal relationship with the product could not be ruled out for these cases.) No patient mortalities have been reported to date.

	Non-proprietary name	Branded name	Indications	MAH
a	Pegfilgrastim (genetical recombination)	G-Lasta Subcutaneous Injection 3.6 mg	<ul style="list-style-type: none"> <li>prevention of chemotherapy-induced febrile neutropenia</li> </ul>	Kyowa Hakko Kirin Co., Ltd.
b	Filgrastim (genetical recombination)	Gran Injection 75	<ul style="list-style-type: none"> <li>mobilization of hematopoietic stem cells to peripheral blood</li> <li>promotion of increases in neutrophil count at the time of hematopoietic stem cell transplantation</li> <li>treatment of neutropenia caused by cancer chemotherapy</li> </ul>	Kyowa Hakko Kirin Co., Ltd.
		Gran Injection 150		
		Gran Injection M300		
Filgrastim (genetical recombination, follow-on biologic 1)	Filgrastim BS 75µg Syringe for Inj. MOCHIDA Filgrastim BS 150 µg Syringe for Inj. MOCHIDA Filgrastim BS 300 µg Syringe for Inj. MOCHIDA	Filgrastim BS 75 µg Syringe for Inj. MOCHIDA	<ul style="list-style-type: none"> <li>neutropenia which affecting the treatment of human immunodeficiency virus (HIV) infection</li> <li>neutropenia associated with myelodysplastic syndrome</li> <li>neutropenia associated with aplastic anemia</li> </ul>	Mochida Pharmaceutical Co., Ltd.
		Filgrastim BS 75 µg Injection Syringe 「F」		Fuji
		Filgrastim BS 150 µg Injection Syringe 「F」		Pharma
		Filgrastim BS 300 µg Injection Syringe 「F」		Co., Ltd.



**Pharmaceuticals and Medical Devices Agency**

*This English version is intended to be a reference material for the convenience of users. In the event of inconsistency between the Japanese original and this English translation, the former shall prevail.*

	Non-proprietary name	Branded name	Indications	MAH
	Filgrastim (genetical recombination, follow-on biologic 2)	Filgrastim BS Inj. 75 µg Syringe 「NK」 Filgrastim BS Inj. 150 µg Syringe 「NK」 Filgrastim BS Inj. 300 µg Syringe 「NK」	congenital/idiopathic neutropenia	Nippon Kayaku Co., Ltd.
		Filgrastim BS Inj. 75 µg Syringe “TEVA” Filgrastim BS Inj. 150 µg Syringe “TEVA” Filgrastim BS Inj. 300 µg Syringe “TEVA”		Teva Takeda Pharma Ltd.
		Filgrastim BS Inj. 75 µg Syringe [SANDOZ] Filgrastim BS Inj. 150 µg Syringe [SANDOZ] Filgrastim BS Inj. 300 µg Syringe [SANDOZ]		Sandoz K.K.
c	Lenograstim (genetical recombination)	Neutrogin Injection 50 µg Neutrogin Injection 100 µg Neutrogin Injection 250 µg	<ul style="list-style-type: none"> <li>· mobilization of hematopoietic stem cells to peripheral blood</li> <li>· promotion of increases in neutrophil count at the time of hematopoietic stem cell transplantation</li> </ul>	Chugai Pharmaceutical Co., Ltd.

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	Non-proprietary name	Branded name	Indications	MAH
			<ul style="list-style-type: none"><li>· treatment of neutropenia caused by cancer chemotherapy</li><li>· neutropenia associated with myelodysplastic syndrome</li><li>· neutropenia associated with aplastic anemia</li><li>· congenital/idiopathic neutropenia</li><li>· neutropenia which affecting the treatment of human immunodeficiency virus (HIV) infection</li><li>· neutropenia associated with immunosuppressive treatment (renal transplant )</li></ul>	

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