

# CENTER FOR DRUG EVALUATION AND RESEARCH

## Approval Package for:

***APPLICATION NUMBER:***

**761166Orig1s000**

***Trade Name:*** BESREMI

***Generic or Proper Name:*** ropeginterferon alfa-2b-nift

***Sponsor:*** PharmaEssentia Corporation

***Approval Date:*** November 12, 2021

***Indication:*** BESREMi is indicated for the treatment of adults with polycythemia vera.

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RESEARCH**

*APPLICATION NUMBER:*

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**APPROVAL LETTER**



BLA 761166

**BLA APPROVAL**

PharmaEssentia Corporation  
c/o PharmaEssentia US, LLC  
Attention: Craig Zimmerman, PhD  
Vice President Medical and Drug Development  
35 Corporate Drive, Suite 325  
Burlington, MA 01803

Dear Dr. Zimmerman:

Please refer to your biologics license application (BLA) dated and received March 13, 2020, and your amendments, submitted under section 351(a) of the Public Health Service Act for Besremi (ropeginterferon alfa-2b-njft) injection, for subcutaneous use.

We acknowledge receipt of your resubmission dated May 13, 2021, which constituted a complete response to our March 12, 2021, action letter.

**LICENSING**

We are issuing Department of Health and Human Services U.S. License No. 2155 to PharmaEssentia Corporation, Taipei, Taiwan, under the provisions of section 351(a) of the Public Health Service Act controlling the manufacture and sale of biological products. The license authorizes you to introduce or deliver for introduction into interstate commerce, those products for which your company has demonstrated compliance with establishment and product standards.

Under this license, you are authorized to manufacture the product Besremi (ropeginterferon alfa-2b-njft). Besremi is indicated for the treatment of adults with polycythemia vera.

**MANUFACTURING LOCATIONS**

Under this license, you are approved to manufacture ropeginterferon alfa-2b-njft drug substance at PharmaEssentia Corporation (PEC) Taichung Plant in Taichung, Taiwan. The (b) (4) intermediate will be manufactured at PEC in Taipei, Taiwan. The final formulated drug product will be manufactured, filled, labeled, and packaged at (b) (4). You may label your product with the proprietary name, Besremi, and market it as 500 mcg/mL in a 1.0 mL single-dose prefilled syringe.

### **DATING PERIOD**

The dating period for Besremi shall be 24 months from the date of manufacture when stored at  $5 \pm 3$  °C. The date of manufacture shall be defined as the date of final sterile filtration of the formulated drug product. The dating period for your drug substance shall be (b) (4) months from the date of manufacture when stored at (b) (4) °C.

We have approved the stability protocol in your license application for the purpose of extending the expiration dating period of your drug product under 21 CFR 601.12.

### **FDA LOT RELEASE**

You are not currently required to submit samples of future lots of Besremi to the Center for Drug Evaluation and Research (CDER) for release by the Director, CDER, under 21 CFR 610.2. We will continue to monitor compliance with 21 CFR 610.1, requiring completion of tests for conformity with standards applicable to each product prior to release of each lot.

Any changes in the manufacturing, testing, packaging, or labeling of Besremi, or in the manufacturing facilities, will require the submission of information to your BLA for our review and written approval, consistent with 21 CFR 601.12.

### **APPROVAL & LABELING**

We have completed our review of this application, as amended. It is approved, effective on the date of this letter, for use as recommended in the enclosed agreed-upon labeling.

### **WAIVER OF ½ PAGE LENGTH REQUIREMENT FOR HIGHLIGHTS**

We are waiving the requirements of 21 CFR 201.57(d)(8) regarding the length of Highlights of Prescribing Information. This waiver applies to all future supplements containing revised labeling unless we notify you otherwise.

### **CONTENT OF LABELING**

As soon as possible, but no later than 14 days from the date of this letter, submit, via the FDA automated drug registration and listing system (eLIST), the content of labeling [21 CFR 601.14(b)] in structured product labeling (SPL) format.<sup>1</sup> Content of labeling must be identical to the enclosed labeling (Prescribing Information, Instructions for Use, and Medication Guide). Information on submitting SPL files using eLIST may be found

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<sup>1</sup> See <http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/default.htm>  
U.S. Food and Drug Administration  
Silver Spring, MD 20993  
[www.fda.gov](http://www.fda.gov)

in the guidance for industry *SPL Standard for Content of Labeling Technical Qs and As* (October 2009).<sup>2</sup>

The SPL will be accessible via publicly available labeling repositories.

### **CARTON AND CONTAINER LABELING**

Submit final printed carton and container labeling that are identical to the enclosed carton and container labeling, as soon as they are available, but no more than 30 days after they are printed. Please submit these labeling electronically according to the guidance for industry *Providing Regulatory Submissions in Electronic Format — Certain Human Pharmaceutical Product Applications and Related Submissions Using the eCTD Specifications*. For administrative purposes, designate this submission “**Final Printed Carton and Container Labeling for approved BLA 761166.**” Approval of this submission by FDA is not required before the labeling is used.

### **ADVISORY COMMITTEE**

Your application for Besremi was not referred to an FDA advisory committee because the application did not raise significant public health questions on the role of the biologic in the diagnosis, cure, mitigation, treatment, or prevention of a disease.

### **REQUIRED PEDIATRIC ASSESSMENTS**

Under the Pediatric Research Equity Act (PREA) (21 U.S.C. 355c), all applications for new active ingredients (which includes new salts and new fixed combinations), new indications, new dosage forms, new dosing regimens, or new routes of administration are required to contain an assessment of the safety and effectiveness of the product for the claimed indication(s) in pediatric patients unless this requirement is waived, deferred, or inapplicable.

Because this drug product for this indication has an orphan drug designation, you are exempt from this requirement.

### **POSTMARKETING REQUIREMENTS UNDER 505(o)**

Section 505(o)(3) of the Federal Food, Drug, and Cosmetic Act (FDCA) authorizes FDA to require holders of approved drug and biological product applications to conduct postmarketing studies and clinical trials for certain purposes, if FDA makes certain findings required by the statute.

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<sup>2</sup> We update guidances periodically. For the most recent version of a guidance, check the FDA Guidance Documents Database at <https://www.fda.gov/RegulatoryInformation/Guidances/default.htm>.

We have determined that an analysis of spontaneous postmarketing adverse events reported under subsection 505(k)(1) of the FDCA will not be sufficient to assess a signal of a serious risk of hepatotoxicity, cardiovascular and thromboembolic events in patients with polycythemia vera treated with Besremi.

Furthermore, the active postmarket risk identification and analysis system as available under section 505(k)(3) of the FDCA will not be sufficient to assess these serious risk(s).

Therefore, based on appropriate scientific data, FDA has determined that you are required to conduct the following study:

- 4171-1 Complete Study EUPAS29462 “A Prospective, Multicenter, Non-interventional, Observational, Post-authorization Safety Study of Ropeginterferon alfa-2b in Polycythemia Vera Patients” to evaluate safety and tolerability during the titration and maintenance phase of Besremi administration in patients with Polycythemia Vera. Specific safety outcomes of interest include hepatotoxicity, cardiovascular and thromboembolic events in treated patients.

The timetable you submitted on November 12, 2021, states that you will conduct this study according to the following schedule:

|                          |         |
|--------------------------|---------|
| Interim Report :         | 03/2022 |
| Study Completion:        | 06/2023 |
| Final Report Submission: | 09/2023 |

FDA considers the term final to mean that the applicant has submitted a protocol, the FDA review team has sent comments to the applicant, and the protocol has been revised as needed to meet the goal of the study or clinical trial.

Submit clinical protocol(s) to your IND 119047 with a cross-reference letter to this BLA. Submit nonclinical and chemistry, manufacturing, and controls protocols and all final report(s) to your BLA. Prominently identify the submission with the following wording in bold capital letters at the top of the first page of the submission, as appropriate:

**Required Postmarketing Protocol Under 505(o), Required Postmarketing Final Report Under 505(o), Required Postmarketing Correspondence Under 505(o).**

Section 505(o)(3)(E)(ii) of the FDCA requires you to report periodically on the status of any study or clinical trial required under this section. This section also requires you to periodically report to FDA on the status of any study or clinical trial otherwise undertaken to investigate a safety issue. Section 506B of the FDCA, as well as 21 CFR 601.70 requires you to report annually on the status of any postmarketing commitments or required studies or clinical trials.

FDA will consider the submission of your annual report under section 506B and 21 CFR 601.70 to satisfy the periodic reporting requirement under section 505(o)(3)(E)(ii) provided that you include the elements listed in 505(o) and 21 CFR 601.70. We remind you that to comply with 505(o), your annual report must also include a report on the status of any study or clinical trial otherwise undertaken to investigate a safety issue. Failure to submit an annual report for studies or clinical trials required under 505(o) on the date required will be considered a violation of FDCA section 505(o)(3)(E)(ii) and could result in enforcement action.

### **PROMOTIONAL MATERIALS**

You may request advisory comments on proposed introductory advertising and promotional labeling. For information about submitting promotional materials, see the final guidance for industry *Providing Regulatory Submissions in Electronic and Non-Electronic Format-Promotional Labeling and Advertising Materials for Human Prescription Drugs*.<sup>3</sup>

You must submit final promotional materials and Prescribing Information, accompanied by a Form FDA 2253, at the time of initial dissemination or publication [21 CFR 314.81(b)(3)(i)]. Form FDA 2253 is available at FDA.gov.<sup>4</sup> Information and Instructions for completing the form can be found at FDA.gov.<sup>5</sup>

### **REPORTING REQUIREMENTS**

We request that you conduct enhanced pharmacovigilance (EPV) and submit a report to the Agency for all U.S. cases of medication dosing errors associated with Besremi. Submit the EPV report to your BLA on a quarterly basis for 1 year from the marketing start date and then every 6 months for an additional 2 years, for a total of 3 years from the U.S. approval date.

For the purposes of this EPV, a medication dosing error is defined as a dose (suspected underdose or overdose) that was unintentionally administered or not administered (including near misses), regardless of whether an adverse event occurred.

The EPV report should include:

- The reporting interval and cumulative data relative to the U.S. approval date for Besremi.

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<sup>3</sup> For the most recent version of a guidance, check the FDA guidance web page at <https://www.fda.gov/media/128163/download>.

<sup>4</sup> <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM083570.pdf>

<sup>5</sup> <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM375154.pdf>

- A summary of the cases along with a line listing of the cases in an Excel file format that includes patient demographics, narrative description, contributing factors for the error, adverse events, and outcome.
- A root cause analysis of any reported medication dosing errors.
- Your strategy and reporter suggestions to mitigate the reported medication dosing error(s).
- A medical literature review for case reports/case series of medication dosing errors associated with Besremi.

You must submit adverse experience reports under the adverse experience reporting requirements for licensed biological products (21 CFR 600.80).

Prominently identify all adverse experience reports as described in 21 CFR 600.80.

You must submit distribution reports under the distribution reporting requirements for licensed biological products (21 CFR 600.81).

You must submit reports of biological product deviations under 21 CFR 600.14. You should promptly identify and investigate all manufacturing deviations, including those associated with processing, testing, packing, labeling, storage, holding and distribution. If the deviation involves a distributed product, may affect the safety, purity, or potency of the product, and meets the other criteria in the regulation, you must submit a report on Form FDA 3486 to:

Food and Drug Administration  
Center for Drug Evaluation and Research  
Division of Compliance Risk Management and Surveillance  
5901-B Ammendale Road  
Beltsville, MD 20705-1266

Biological product deviations, sent by courier or overnight mail, should be addressed to:

Food and Drug Administration  
Center for Drug Evaluation and Research  
Division of Compliance Risk Management and Surveillance  
10903 New Hampshire Avenue, Bldg. 51, Room 4207  
Silver Spring, MD 20903

### **POST APPROVAL FEEDBACK MEETING**

New biological products qualify for a post approval feedback meeting. Such meetings are used to discuss the quality of the application and to evaluate the communication process during drug development and marketing application review. The purpose is to

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Silver Spring, MD 20993  
[www.fda.gov](http://www.fda.gov)

learn from successful aspects of the review process and to identify areas that could benefit from improvement. If you would like to have such a meeting with us, call the Regulatory Project Manager for this application.

If you have any questions, call Carleveva Thompson, Regulatory Project Manager, at 301-796-1403.

Sincerely,

*{See appended electronic signature page}*

Hylton V. Joffe, MD, MMSc  
Office Director (Acting)  
Office of Cardiology, Hematology,  
Endocrinology, and Nephrology  
Center for Drug Evaluation and Research

ENCLOSURES:

- Content of Labeling
  - o Prescribing Information
  - o Medication Guide
  - o Instructions for Use
- Carton and Container Labeling

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**This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.**  
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/s/  
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