



Food and Drug Administration
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November 20, 2015

Alcresta, Inc.
C/O Ms. Nandini Murthy
Regulatory Consultant to Alcresta
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Suite 202
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Re: DEN150001
RELIZORB™
Evaluation of Automatic Class III Designation – *De Novo* Request
Regulation Number: 21 CFR 876.5985
Regulation Name: Enzyme Packed Cartridge
Regulatory Classification: Class II
Product Code: PLQ
Dated: December 17, 2014
Received: January 2, 2015

Dear Nandini Murthy:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has completed its review of your *de novo* request for classification of the RELIZORB™, a prescription device under 21 CFR Part 801.109, that is indicated for *use in adults to hydrolyze fats in enteral formula*. FDA concludes that this device should be classified into class II. This order, therefore, classifies the RELIZORB™, and substantially equivalent devices of this generic type, into class II under the generic name, Enzyme Packed Cartridge.

FDA identifies this generic type of device as:

Enzyme Packed Cartridge: The enzyme packed cartridge is an *ex vivo* prescription device that is used in enzymatic hydrolysis of macronutrients into their essential nutrient forms at the time of delivery. The device consists of an outer casing containing an inert polymer with a covalently bound enzyme through which nutritional formula is directed. The device fits in line with enteral feeding systems.

Section 513(f)(2) of the Food, Drug and Cosmetic Act (the FD&C Act) was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA) on July 9, 2012. This new law provides two options for *de novo* classification. First, any person who receives a "not substantially equivalent" (NSE) determination in response to a 510(k) for a device that has not been previously classified under the Act may, within 30 days of receiving notice of the NSE determination, request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act. Alternatively, any person who determines that there is no legally marketed device upon

which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k). FDA shall, within 120 days of receiving such a request, classify the device. This classification shall be the initial classification of the device. Within 30 days after the issuance of an order classifying the device, FDA must publish a notice in the **Federal Register** classifying the device type.

On January 2, 2015, FDA received your *de novo* requesting classification of the RELIZORB™ into class II. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify the RELIZORB™ into class I or II, it is necessary that the proposed class have sufficient regulatory controls to provide reasonable assurance of the safety and effectiveness of the device for its intended use.

After review of the information submitted in the *de novo* request, FDA has determined that the RELIZORB™, indicated for *use in adults to hydrolyze fats in enteral formula*, can be classified in class II with the establishment of special controls. FDA believes that class II (special) controls provide reasonable assurance of the safety and effectiveness of the device type. The identified risks and mitigation measures associated with the device type are summarized in Table 1.

Table 1 – Identified Risks to Health and Mitigation Measures

Identified Risk	Mitigation Measure
Adverse tissue reaction	<ul style="list-style-type: none"> • Biocompatibility testing • Non-clinical testing • <i>In vivo</i> testing • Labeling
Mechanical failure <ul style="list-style-type: none"> - Deprivation of care - Device clogging - Filter becomes dislodged and releases beads into enteral formula 	<ul style="list-style-type: none"> • Non-clinical testing • Shelf life testing • Labeling
Reduced enzymatic effect	<ul style="list-style-type: none"> • Non-clinical testing • <i>In vivo</i> testing • Shelf life testing • Labeling
Use error	<ul style="list-style-type: none"> • Human factors testing • Labeling
Infection	<ul style="list-style-type: none"> • Shelf life testing • Labeling

In combination with the general controls of the FD&C Act, the Enzyme Packed Cartridge is subject to the following special controls:

1. The patient contacting components of the device must be demonstrated to be biocompatible.

2. *In vivo* testing must be performed and must demonstrate that the device causes neither an adverse tissue response nor adverse performance.
3. Non-clinical testing must demonstrate that the device performs as intended under anticipated conditions of use. The following performance characteristics must be demonstrated:
 - (A). Mechanical testing to demonstrate that the device can withstand clinical forces.
 - (B). Flow rate and leakage testing to demonstrate that the device does not impede the flow of enteral formula.
 - (C). Demonstration of enzymatic effect on intended macronutrient.
 - (D). The amount of enzyme that exits the cartridge must be characterized.
 - (E). Validation that the device does not adversely impact the nutritional composition of enteral formula.
 - (F). Validation that the device does not impede flow alarms on enteral feeding pumps.
4. Human factors testing must be performed to characterize use error risks.
5. Performance data must support shelf life by demonstrating package integrity and device functionality over the identified shelf life.
6. Labeling must include the following:
 - (A). A detailed summary of *in vivo* testing pertinent to use of the device, including device-related adverse events.
 - (B). A detailed summary of compatible formulas that is supported by non-clinical testing, including the expected enzymatic conversion as a percentage.
 - (C). Detailed instructions on how to place the device into an enteral feeding circuit.
 - (D). A warning regarding the possibility for misconnections.
 - (E). Expiration date or shelf life.
7. Patient labeling must be provided and must include:
 - (A). Relevant warnings, precautions, adverse effects, and complications.
 - (B). A description of the device and how it operates.
 - (C). Instructions on how to correctly use the device.
 - (D). The benefits and risks associated with the use of the device.

In addition, this is a prescription device and must comply with 21 CFR 801.109. Section 510(m) of the FD&C Act provides that FDA may exempt a class II device from the premarket notification requirements under section 510(k) of the FD&C Act, if FDA determines that premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of the device type. FDA has determined premarket notification is necessary to provide reasonable assurance of the safety and effectiveness of the device type and, therefore, the device is not exempt from the premarket notification requirements of the FD&C Act. Thus, persons who intend to market this device type must submit a premarket notification containing information on the Enzyme Packed

Cartridge they intend to market prior to marketing the device and receive clearance to market from FDA.

Please be advised that FDA's decision to grant this *de novo* request does not mean that FDA has made a determination that your device complies with other requirements of the FD&C Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the FD & C Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the FD & C Act); 21 CFR 1000-1050.

A notice announcing this classification order will be published in the **Federal Register**. A copy of this order and supporting documentation are on file in the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852 and are available for inspection between 9 a.m. and 4 p.m., Monday through Friday.

As a result of this order, you may immediately market your device as described in the *de novo* request, subject to the general control provisions of the FD&C Act and the special controls identified in this order.

If you have any questions concerning this classification order, please contact Joshua Silverstein, Ph.D. at 301-796-5155.

Sincerely,

Jonette R. Foy -S

Jonette Foy, Ph.D.
Deputy Director
for Engineering and Science Review
Office of Device Evaluation
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