



January 19, 2024

Gelesis Inc.
Giorgio Sorcini
501 Boyston St., Ste. 6102
Boston, Massachusetts 02116

Re: K230133
Trade/Device Name: Plenity
Regulation Number: 21 CFR 876.5982
Regulation Name: Ingested, Transient, Space Occupying Device For Weight Management
and/or Weight Loss
Regulatory Class: II
Product Code: QFQ
Dated: December 21, 2023
Received: December 22, 2023

Dear Giorgio Sorcini:

We have reviewed your section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (the Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database available at <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm> identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Additional information about changes that may require a new premarket notification are provided in the FDA guidance documents entitled "Deciding When to Submit a 510(k) for a Change to an Existing Device" (<https://www.fda.gov/media/99812/download>) and "Deciding When to Submit a 510(k) for a Software Change to an Existing Device" (<https://www.fda.gov/media/99785/download>).

Your device is also subject to, among other requirements, the Quality System (QS) regulation (21 CFR Part 820), which includes, but is not limited to, 21 CFR 820.30, Design controls; 21 CFR 820.90, Nonconforming product; and 21 CFR 820.100, Corrective and preventive action. Please note that regardless of whether a change requires premarket review, the QS regulation requires device manufacturers to review and approve changes to device design and production (21 CFR 820.30 and 21 CFR 820.70) and document changes and approvals in the device master record (21 CFR 820.181).

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the 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 Part 803) for devices or postmarketing safety reporting (21 CFR Part 4, Subpart B) for combination products (see <https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products>); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR Part 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR Parts 1000-1050.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems>.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance>) and CDRH Learn (<https://www.fda.gov/training-and-continuing-education/cdrh-learn>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice>) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Anthony Lee -S

2024.01.19 15:03:16 -05'00'

Anthony Lee, Ph.D.

Assistant Director

DHT3A: Division of Renal, Gastrointestinal,
Obesity and Transplant Devices

OHT3: Office of Gastrorenal, ObGyn,

General Hospital, and Urology Devices

Office of Product Evaluation and Quality

Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (if known)
K230133

Device Name
Plenity®

Indications for Use (Describe)

Plenity® is indicated to aid in weight management in adults with excess weight or obesity, with a Body Mass Index (BMI) of 25 to 40 kg/m², when used in conjunction with diet and exercise.

Type of Use (Select one or both, as applicable)

Prescription Use (Part 21 CFR 801 Subpart D)

Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF EMAIL ADDRESS BELOW.

The burden time for this collection of information is estimated to average 79 hours per response, including the time to review instructions, search existing data sources, gather and maintain the data needed and complete and review the collection of information. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden, to:

Department of Health and Human Services
Food and Drug Administration
Office of Chief Information Officer
Paperwork Reduction Act (PRA) Staff
PRASStaff@fda.hhs.gov

"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number."

510(k) Summary

Regulatory Information

Classification Name: Ingested, transient, space occupying device for weight management and/or weight loss.

Common Name: Weight management device

Regulation Number: 21 CFR 876.5982

Classification: Class II

Product Code: QFQ

Device Trade Name: Plenity®

Indications for Use: Plenity® is indicated to aid in weight management in adults with excess weight or obesity, with a Body Mass Index (BMI) of 25 to 40 kg/m², when used in conjunction with diet and exercise.

Sponsor Information: Gelesis Srl
Via Europa, 187
73021 Calimera (LE)
Italy

Contact Person: Giorgio Sorcini
Sr. Regulatory Affairs Director
Phone: +39 347 5047105
email: gsorcini@gelesis.com

Date Prepared: January 16th, 2024

Device description

Plenity is a porcine gelatin capsule that contains thousands of absorbent hydrogel particles (0.75 grams [g] per capsule); each particle is approximately the size of a grain of salt. Plenity OTC is non-systemic and works directly in the gastrointestinal (GI) tract. Plenity OTC hydrogel is made from two naturally derived ingredients, cellulose and citric acid, that form a three-dimensional matrix designed to occupy volume in the stomach and small intestine, to create a sensation of fullness. Plenity OTC is provided non-sterile.



Plenity OTC capsules with hydrogel exposed

The capsules disintegrate in the stomach and release the Plenity OTC particles, which can hydrate up to 100 times their original weight. When fully hydrated, the individual non-clustering Plenity OTC particles from the 2.25 g/dose occupy about a quarter of the average stomach volume. The gel particles mix with ingested foods, creating a larger volume with higher elasticity and viscosity in the stomach and small intestine.

Plenity OTC passes through the digestive system, maintaining its three-dimensional structure in the stomach and small intestine before breaking down in the colon. The water is then released and reabsorbed by the body. Plenity particles are eliminated through normal bowel movements; they are not absorbed by the body.

Patients consume three (3) capsules (2.25 g/dose) with water before both lunch and dinner. Plenity OTC is supplied in peelable pods that provide the two doses patients take daily. Each individual pod holds a single dose of three (3) capsules. Plenity OTC pods are supplied in a monthly kit.

Predicate Device

The Plenity OTC device is identical to the currently cleared device Plenity (DEN180060) in terms of its technological characteristics and mechanism of action. Although this application proposes to switch from prescription required to over-the-counter use, Plenity OTC has the same intended use as its predicate, Plenity (DEN180060).

Technological Characteristics

As noted above, Plenity OTC remains technologically identical to its predicate device. See the table below for the device specifications.

Table: Plenity OTC Specifications

	Plenity / Plenity OTC
General Specifications	
Capsule disintegration time	NMT 15 minutes
Media uptake after disintegration	NLT 70 g/g
Capsule content uniformity	760 mg \pm 10%
Media uptake	NLT 70 g/g
Elastic modulus	NLT 500 Pa
Loss on drying	NMT 10%
Dosing	Plenity OTC should be taken with water twice a day, 20 to 30 minutes before lunch and 20 to 30 minutes before dinner. Each dose includes 3 capsules of Plenity (provided in a single pod)

Summary of Nonclinical/Bench Studies

No non-clinical/bench studies were specifically conducted in support of the switch to over-the-counter use as the device is the same of the predicate. The submitted device has an upgraded labeling interface to support self-selection ad use without the intervention of a prescriber.

Biocompatibility

Plenity and Plenity OTC devices underwent biocompatibility assessment according to ISO 10993-1:2018 requirements for a device having permanent (> 30 days) surface contact with mucosal membranes. All the biological endpoints have been addressed by biocompatibility studies and/or rationales based on scientific literature, as the device components have long and documented story of use with the same contact. Endpoints considered are:

- Cytotoxicity, tested in compliance with ISO 10993-5 (elution and Agar mediated assays).
- Sensitization, tested in compliance with ISO 10993-10 (Guinea Pig Maximization Test).
- Irritation: tested in compliance with ISO 10993-10 (Oral Mucosal Irritation Study in Hamsters - Collar Method - 14 Days).

- Acute Systemic Toxicity: tested in compliance with ISO 10993-11 (Oral Toxicity Study in Mice, 7 Days).
- Genotoxicity: tested in compliance with ISO 10993-3 (Bacterial Reverse Mutation Study, Genotoxicity - Mouse Lymphoma Assay and Mouse Peripheral Blood Micronucleus Study)
- Sub-chronic Toxicity: tested in compliance with ISO 10993-11 (Safety and Tolerability 90 Days Study in Rats with Recovery)
- Chronic Systemic Toxicity: assessed based on chemical characterization according to ISO 10993-18 and literature data.
- Reproductive/Developmental Toxicity: assessed by literature on known experience with the constituent materials.
- Biodegradation and toxicokinetic: assessed based on degradation products studies according to ISO 10993-13 compared with literature data.
- Implantation: assessed by literature data on constituent substances, but not required for devices administered orally.

Bench models

Studies were performed on a bench model to evaluate swelling properties of the hydrogel at each relevant point in a simulated gastro-intestinal transit.

A specific assay was performed on bench to assess, by an internally developed method (RD-0518.01), correct hydration with no lumps of the hydrogel in simulated clinical conditions.

Stability and shipping studies

Stability studies in compliance with ICH guidances have been performed with Plenity pods (primary packaging level) and are fully applicable to Plenity OTC as it is the same device apart from secondary package labeling. Ongoing stability studies confirmed on bench a shelf-life of 30 months for the most recent version of Plenity / Plenity OTC.

Similarly, ship testing was performed to verify that the packaging configurations for Plenity met the expected shipping and storage conditions during commercial use. The shipping/environmental testing was performed per ASTM D4169:2016 and ASTM D999-08:2015. The test environment included exposure to vibration, stacking, compression and impact simulations.

Usability studies

Usability studies in compliance with IEC 62366-1:2015/AMD1:2020 have been performed to support transition of Plenity to OTC distribution. As the graphical interface of the Plenity OTC box was provided of a BMI calculation and selection table and other information relevant to let the patient self-identify as intended or unintended user, a first summative usability study, conducted on 27 subjects, identified some weakness in communication of requirements for safe selection and use of the device. Based on these results, device labeling has been improved towards a more effective and clear communication. The upgraded labeling design was validated by a further

summative comprehension study, involving 28 subjects, which demonstrated an effective communication of requirements for a safe device self-selection and use.

Summary of Clinical Information

No clinical studies were specifically conducted in support of the switch to over-the-counter use. The Plenity was originally granted by De Novo submission based on results of GLOW and GLOW-EX studies. It demonstrated robust efficacy in GLOW pivotal study, with 58.6% of patients losing $\geq 5\%$ total body weight in 6 months (95% CI 51.8 to 65.4%), and 27% of patient losing 10% or more. The incidence of treatment emergent adverse events (TEAEs) in the GLOW study (71.3% in Plenity arm versus 70.6% Placebo) and the incidence of AEs related to Plenity (39.5% in Plenity arm versus 30.3% in Placebo) were no different in the device group compared to Placebo. There were no unanticipated adverse device effects or deaths in the study. There were no SAEs associated with the use of Plenity. There was one SAE in the Placebo treatment group. This exemplary safety profile was maintained for the 21 subjects exposed to Plenity for one year in the GLOW-EX study.

Conclusion

Gelesis has demonstrated that the proposed Plenity OTC device is substantially equivalent to its predicate device. The intended use and mechanism of action are identical. The device characteristics and specifications, which includes materials, design and performance are unchanged. Plenity OTC meets the same special controls regarding biocompatibility and non-clinical performance as the predicate device.

Plenity OTC was tested and shown to perform according to its specifications that are the same as those of the Plenity (DEN180060). The validation of Plenity OTC labeling by Human Factors studies has provided confidence that the Plenity OTC interface has been properly designed to support effective self-selection, based on device Indications for Use, and recognition of any needs to consult a doctor in specific situations.

After review of the Plenity OTC risk analysis, it was concluded that there were no new unacceptable safety and effectiveness risks identified as a result of switching from prescription to over-the-counter use that would increase risk to patients and/or present unacceptable residual risks.