DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
10903 New Hampshire Avenue
Document Control Center - WO66-G609
Silver Spring, MD 20993-0002

Saliwell Ltd.
Ben Beiski
CEO
65 Hatamar St.
60917 Harutzim, Israel

February 15, 2017

Re: K160799
Trade/Device Name: GenNarino
Regulation Number: 21 CFR 872.5560
Regulation Name: Electrical Salivary Stimulatory System
Regulatory Class: Class II
Product Code: LTF
Dated: November 23, 2016
Received: November 23, 2016

Dear Ben Beiski:

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 (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. 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.

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 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 Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm.

Sincerely yours,

for Tina Kiang, Ph.D.
Acting Director
Division of Anesthesiology,
General Hospital, Respiratory,
Infection Control, and Dental Devices
Office of Device Evaluation
Center for Devices and Radiological Health

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: January 31, 2017
See PRA Statement below.

510(k) Number *(if known)*
K160799

Device Name
GenNarino

Indications for Use *(Describe)*
GenNarino is an electrical salivary stimulator system, indicated for use in patients with xerostomia (dry mouth), under prescription of a dental practitioner or physician.

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.

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SALIWELL LTD. MEDICAL SYSTEMS

K160799

Date: 14 November 2016

510(k) Summary

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Date of Summary preparation: December 22nd, 2015

Trade name: GenNarino

Common name: Electrical salivary stimulator system

Classification name: not known

Legally marketed devices to which a new device is compared for a determination regarding substantial equivalence:

The legally marketed device to which GenNarino is compared for a determination regarding substantial equivalence is Salitron System, PMA Number P860067. This device is an electrical salivary stimulator system, recently classified as Class II (Federal Register /Vol. 80, No. 224 / Friday, November 20, 2015 /Rules and Regulations, page 72585).

Description of the device:

GenNarino is an electrical salivary stimulatory system device. It is comprised of two units: a mouthpiece shaped to the contour of the lower dental arch and an infra-red remote control to turn the stimulation On or Off.

The mouthpiece comprises of two dental grade plastic sheets. GenNarino embed an electronic module hermetically sealed between both sheets and a power source of two 3V small coin batteries. Two electrodes made of biocompatible materials are connected to the electronic module, protrude from the plastic sheet and contact the mucosa of the lower dental arch, at the lingual side.

The electronic circuit allows switching the stimulation "On" and "Off" by an external remote control. The user pushes the remote control's "ON" button to turn the electronic circuit on and afterwards places the device on his/her lower dental arch. Typically after up to five minutes of use, the user removes the device from his/her mouth and deactivates the stimulation by pushing the remote control's "OFF" button. The device is used on "as need" base (i.e. when the users feels oral dryness) but not more than 5 times per day. The device and replacement devices are allowed for a cumulative use of up to 50 months.

Clinical trial showed that GenNarino usage increases relative saliva production, resulting in more oral lubrication, due to the mechanical and electrical stimulation (both well-known techniques to increase salivary secretion and to relieve symptoms of dry mouth).

Mechanical stimulation is executed by the contact of the mouthpiece with the oral mucosa. Electrical stimulation is achieved by the delivery of low-power, low voltage, biphasic pulses from the electrodes to the oral mucosa, with the aim of stimulating the lingual nerve. The GenNarino electrodes are positioned at the inferior third molar (wisdom tooth) area in

proximity to the lingual nerve, the preferred site of electrostimulation, because this nerve is known to control to a great extent the salivary glands secretion. The selected stimulating parameters provide effective stimulation, yet are well below the sensation thresholds, and definitely the pain threshold.

Intended use:

GenNarino is an electrical salivary stimulator system, and is identified as a prescription intraoral device intended to electrically stimulate a relative increase in saliva production.

Indications for use:

GenNarino is an electrical salivary stimulator system, indicated for use in patients with xerostomia (dry mouth), under prescription of a dental practitioner or physician.

Contraindications:

GenNarino shouldn't be used by:

- Children and adolescents (persons under 18 years of age).
- Persons that are allergic to the surface materials of the device:
  - Electrodes: made of platinum/iridium.
  - Body: made of the plastic materials polyurethane and polycarbonate.

Summary of the technological characteristics of GenNarino compared to the predicate devices:

The table below compares the intended use and technological characteristics of the GenNarino and the Salitron System (P860067).

Feature being compared	**PROPOSED DEVICE GenNarino**	**PREDICATE DEVICE Salitron System (P860067)**
Intended Use	GenNarino is intended to electrically stimulate a relative increase in saliva production.	The device is intended to stimulate salivary production from existing glandular tissue.
Technological Characteristics		
Mechanism of action	Promote salivary function by mechanical and electrical stimulation of nerves that are involved in the salivary reflex.	Promote salivary function by mechanical and electrical stimulation of nerves that are involved in the salivary reflex.
Placement of electrodes	Fixed-positioned on the oral mucosa in vicinity to the lingual nerve.	Manually positioned between the tongue and the palate in vicinity to nerves involved in salivary gland stimulation.
Electronics	Digital.	Traditional.
Anatomical adaptation to the oral cavity	Yes.	No.
Frequency of use	Up to 5 times per day, 5 minutes at a time.	Three times a day.
External control	Yes, wireless.	Yes, with cord.

The subject device and predicate have slightly different Intended Use language. However, the difference in language does not change the intended use or substantial equivalence. No "different questions of safety or effectiveness" may be raised by the technological characteristics of GenNarino that were not applicable to Salitron System, and thus may pose a significant safety or effectiveness concern for GenNarino.

Non clinical performance equivalence:

Assessment of non-clinical performance data was performed, and supports a determination of substantial equivalence. In addition, GenNarino was tested by independent laboratories and found to be in compliance with the required international standards.

Clinical performance evaluation:

Throughout the development of GenNarino, two multi-national clinical trials have been performed. The first one was a controlled, short-term usage, double-blinded study performed in three medical centers in Europe. The study compared mechanical-electrical stimulation (i.e., stimulating with electrical pulses) vs. mechanical stimulation alone (i.e., no electrical stimulation), both delivered to the oral mucosa of dry mouth patients during 10 minutes. The study's primary outcome, measured oral dryness and xerostomia symptoms changes as a result of device wearing were assessed, and compared between mechanical vs. mechanical-electrical modes.

Mechanical-electrical stimulation resulted in a significant decrease in oral dryness (as measured by the wetness sensors) with statistical significance of $p<0.0001$, leading to a beneficial effect on patients' subjective condition. No significant side-effects were observed.

A second, long-term randomized multi-national clinical trial has been performed in 14 institutions in 13 countries, including the US and countries in Europe and the Americas. The use of GenNarino was compared between mechanical stimulation vs. mechanical-electrical stimulation mode for one month each in a double-blind design (Stage I). Thereafter, at Stage II the xerostomia relieving effect of the mechanical-electrically stimulating ('active' device) was assessed in an open label design for additional 3 periods of 3 months each. Ninety six patients have finished Stage I, and 56 patients have completed Stage II. No severe or irreversible systemic or local adverse effects that could be unequivocally attributed to GenNarino usage were observed.

In Stage I, patient-reported degree of oral moisture improved 18% on mechanical mode and 26% on mechanical-electrical mode, and frequency of xerostomia decreased 12% upon mechanical stimulation and 18% due to mechanical-electrical stimulation (with statistical significance level of the difference between mechanical and mechanical-electrical modes of $p<0.002$ for xerostomia severity and $p<0.05$ for xerostomia frequency).

At the end of Stage II, the level and frequency of self-perceived oral moisture improved 34% ($p<0.001$) and 17% ($p<0.002$), respectively. The amount of collected saliva increased 25% ($p<0.001$) under resting conditions, and 18% ($p<0.02$) under masticatory stimulation. Among 7 out of 8 patients with no salivary flow at the start of the study, salivary flow could be collected on follow-up examinations.

The above results support a determination of substantial equivalence. The subjects upon whom the GenNarino was tested, was composed of a mixed xerostomia patient sample, including xerostomia secondary to Sjögren's Syndrome, radiotherapy, medication, graft vs. host diseases and idiopathic xerostomia as well. The safety or effectiveness data obtained from the testing (as reported above) support a determination of substantial equivalence.

Conclusions:

Conclusions drawn from the nonclinical and clinical test demonstrate that GenNarino is substantially equivalent to Salitron System.