



Food and Drug Administration  
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Silver Spring, MD 20993-0002

June 8, 2017

Irvine Scientific Sales Co., Inc.  
Jayme Yamaguchi-Owens  
Regulatory Affairs Manager  
2511 Daimler Street  
Santa Ana, CA 92705

Re: K170681  
Trade/Device Name: Continuous Single Culture® -NX (CSCM-NX)  
Regulation Number: 21 CFR§ 884.6180  
Regulation Name: Reproductive Media and Supplements  
Regulatory Class: II  
Product Code: MQL  
Dated: May 18, 2017  
Received: May 23, 2017

Dear Jayme Yamaguchi-Owens:

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,

  
**Benjamin R. Fisher -S**

Benjamin R. Fisher, Ph.D.  
Director  
Division of Reproductive, Gastro-Renal,  
and Urological Devices  
Office of Device Evaluation  
Center for Devices and Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known)  
K170681

Device Name  
Continuous Single Culture®-NX (CSCM-NX)

### Indications for Use (Describe)

The Continuous Single Culture®-NX (CSCM-NX) is intended for use as a culture medium for human gametes and embryos from fertilization through day 5/6 of development in vitro.

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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## 510(k) Summary

### I. General Information on Submitter

Submitter/Address: Irvine Scientific Sales Co., Inc.  
2511 Daimler Street  
Santa Ana, CA 92705  
Telephone: 800-437-5706  
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Contact Person: Jayme Yamaguchi-Owens  
Regulatory Affairs Manager  
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2511 Daimler Street  
Santa Ana, CA 92705  
Tel: 949-261-7800 ext 254  
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Email: [jfy@irvinesci.com](mailto:jfy@irvinesci.com)

II. Date Prepared: June 6, 2017

### III. General Information on Device

Device Name: Continuous Single Culture<sup>®</sup>-NX (CSCM-NX)  
Common Name: Embryo Culture Media  
Classification Name: Reproductive Media and Supplements (21 CFR 884.6180)  
Product code: MQL (Media, Reproductive)  
Regulatory Class: II

IV. Predicate Device: Continuous Single Culture Complete (K121572), manufactured by Irvine Scientific Sales Co., Inc. This predicate device has not been subject to any design related recalls.

### V. Description of the Device:

The Continuous Single Culture<sup>®</sup>-NX (CSCM-NX) is a culture medium using a formulation modified from the predicate device. It is intended for culture of embryos from fertilization to blastulation. This medium consists of salts, energy substrates, amino acids, buffering agents, nutrients supplements, and antibiotics.

This product is a single-use device supplied in a fill volume of 20 mL and 60 mL. It is aseptically filled into sterilized bottles and has a sterility assurance level (SAL) of  $10^{-3}$ . The product is tested for pH, osmolality, embryotoxicity, spermtoxicity, endotoxin, and sterility before lot release. The product has a four-month shelf-life and remains stable for four weeks after opening/closing of the bottle when it is stored at 2-8°C.

**VI. Indication for Use:**

The Continuous Single Culture<sup>®</sup>-NX (CSCM-NX) is intended for use as a culture medium for human gametes and embryos from fertilization through day 5/6 of development in vitro.

**VII. Comparison of Intended Use and Technological Characteristics of Subject and Predicate Devices**

<b>Device &amp; Predicate Device(s):</b>	<b>K170681 (subject device)</b>	<b>K121572 (predicate device)</b>
Indications for Use	Same as predicate device	Continuous Single Culture complete is intended for use as a culture medium for human gametes and embryos from fertilization through day 5/6 of development in vitro.
pH (under 5% CO <sub>2</sub> )	Same as predicate device	7.25-7.54
Osmolality	Same as predicate device	260-270 mOsm/kg
Formulation	Comparable to predicate device	39 ingredients
<p>The subject and predicate devices have the same indication – culture of embryos from fertilization to blastulation. Therefore, they have the same intended use.</p> <p>The subject and predicate devices have the same pH, osmolality and comparable formulations. Unlike the predicate device, the subject device does not contain human serum albumin (HSA), but needs addition of HSA before use. In addition, the concentrations of certain ingredients are modified in the subject device. The differences noted between the subject and predicate devices are minor and do not raise different questions of safety and effectiveness.</p> <p>In addition to pH and osmolality, the acceptance criteria for other product characteristics of the subject device, including mouse embryo assay (MEA), human sperm survival assay (HSSA), endotoxin and sterility, are same to those of the predicate device.</p>		

**VIII. Summary of Non-clinical Performance Testing**

The following studies have been performed to support substantial equivalence to the predicate device:

- pH
- Osmolality
- Aseptic Processing Validation testing per ISO 13408-1:2008 and ISO 13408-2:2003
- Sterility testing per USP <71>
- Endotoxin testing per USP <85>
- Mouse embryo assay (MEA)

One-cell mouse embryos were exposed to subject devices and cultured at 37°C in an atmosphere containing 5% CO<sub>2</sub>. The percent of embryos developed to the expanded blastocyst stage at 96 hours were assessed in comparison with the control group.

- Shelf-life studies (real-time and accelerated) were conducted to ensure that the following acceptance criteria for product characteristics are met at time zero and the end of shelf-life.
  - \* pH – See table above
  - \* Osmolality – See table above
  - \* 1-cell MEA – ≥80% developed to the blastocyst stage at 96 hours
  - \* HSSA – ≥70% of original motility at 24 hours
  - \* Endotoxin – ≤0.25 EU/ml (LAL)
  - \* Sterility – No microbiological growth
- Stability testing was conducted to ensure that acceptance criteria for the product specifications are met after repeated opening/closing of bottles for four (4) weeks if handled appropriately.

#### **XI. Conclusion:**

The subject and predicate devices have the same intended use. Although there is a difference in formulation between the subject and predicate devices, this difference does not raise different questions of safety or effectiveness. The performance data also demonstrate that the subject device is substantially equivalent to the predicate device.