March 23, 2022

Shanghai MicroPort EP MedTech Co., Ltd.
Tian Xia
RA Engineer
Building 23&28, Lane 588, Tianxiong Rd.
Shanghai
China

Re: K212625
Trade/Device Name: PathBuilder™ Transseptal Needle
Regulation Number: 21 CFR 870.1390
Regulation Name: Trocar
Regulatory Class: Class II
Product Code: DRC
Dated: February 15, 2022
Received: February 22, 2022

Dear Tian Xia:

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. 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 located 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.

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) for devices or postmarketing safety reporting (21 CFR 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 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

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 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,

Rachel Neubrander
Assistant Director
DHT2B: Division of Circulatory Support,
Structural and Vascular Devices
OHT2: Office of Cardiovascular Devices
Office of Product Evaluation and Quality
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: 06/30/2023
See PRA Statement below.

510(k) Number *(if known)*
K212625

Device Name
PathBuilder Transseptal Needle

Indications for Use *(Describe)*
The PathBuilder Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.

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) # K212625

510(k) Summary

Submitter Information

A. Company Name:	Shanghai MicroPort EP MedTech Co., Ltd.
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C. Company Phone:	+86 21 38954600*3613
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E. Email:	txia@everpace.com
F. Contact Person:	Xia, Tian
G. Summary Prepared on:	February 15, 2022

Identification of Proposed Device

A. Trade Name:	PathBuilder™ Transseptal Needle
B. Common Name:	Transseptal Needle
C. Classification Name:	Trocar
D. Regulation Number	21 CFR 870.1390
E. Product Code:	DRC
F. Device Class:	Class II
G. Review Panel	Cardiovascular
H. 510(k) Number	K212625

Device Description

PathBuilder™ Transseptal Needle is consisted of thin section, curved section, main body, pointer flange, hub and stylet. The distal end of PathBuilder™ Transseptal Needle is curved for easy positioning within the heart when used together with the catheter introducer. The outer diameter of needle stepped down within the curved section for better fitness to the dilator which fixes the maximum length of the needle into the dilator. The distal tip of the needle is beveled to facilitate the transseptal process. The proximal end of PathBuilder™ Transseptal Needle is with a pointer flange which indicates the curve orientation of the needle. And a hub is equipped for aspiration, fluid injection/infusion etc. The stylet is straight. The proximal end of the stylet is curved to lock on the hub when inserted into the needle lumen. The stylet is used to help insert the needle into the dilator.

Intended Use Statement

The PathBuilder™ Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.

Identification of Predicate Device

A.	Product Name:	BRK™ Transseptal Needle
B.	Manufacturer:	St. Jude Medical
C.	510(k) Number:	K122587
D.	Regulation Number	21 CFR 870.1390
E.	Product Code:	DRC
F.	Device Class:	Class II

Non-Clinical Performance Testing

Non-clinical performance testing was completed for the PathBuilder™ Transseptal Needle to support its substantial equivalence to the predicate device. The test results demonstrated that the proposed device complies with the following standards and guidance:

(1) Biocompatibility Verification: The biological safety of the transseptal needle was verified as per the requirements of ISO 10993-1:2018 Biological evaluation of medical devices- Part 1:Evaluation and testing within a risk management process and FDA's modified ISO guidelines in accordance with the FDA guidance document Use of International Standard ISO 10993-1, "Biological evaluation of medical devices – Part 1: Evaluation and testing within a risk management process".

a) Cytocompatiblity

b) Sensitization

c) Irritation

d) Acute Systemic Toxicity

e) Hemocompatibility

f) Complement Activation

g) Thrombogenicity

(2) Bench Validation: Validation testing of the transseptal needle was performed to validate the design of the device. This testing included visual inspection, dimensional verification, packaging testing (visual inspection, sealing strength, dye penetration) and mechanical failure/performance (Joint forces between each parts). Additionally, the compatibly of the needle and dilator was validated with compatibility, puncture force, radio detectability, luer fitting. All samples were sterilized and aged prior to testing. All tested samples passed bench testing.

(3) Cleaning and Sterilization Validation: Validation testing was performed to demonstrate that the transseptal needle could be sterilized in accordance with ISO 11135:2014 Sterilization of health care products-

Ethylene Oxide: Requirements for development, validation and routine control of a sterilization process for medical device, AAMI TIR 28:2009 Product Adoption and Process Equivalency for Ethylene Oxide sterilization and the FDA guidance document.

(4) Shelf Life Validation: Validation testing was performed to demonstrate the shelf life of the transseptal needle is three years.

Clinical Tests Conclusion

No clinical study was used to support this submission.

Comparison to Predicate Device、

Description	Proposed Device	Predicate Device (K122587)	Remark
Product Code	DRC	DRC	SE
Regulation No.	21 CFR 870.1390	21 CFR 870.1390	SE
Class	Class II	Class II	SE
Intended Use	The PathBuilder™ Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.	The BRK™ Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.	SE
Indications for Use	The PathBuilder™ Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.	The BRK™ Transseptal Needle is used to puncture the interatrial septum during a transseptal catheterization procedure to gain left heart access.	SE
Configuration	Hub	Hub	SE
	Pointer flange	Pointer flange	SE
	Needle tip	Needle tip	SE
Dimensional Comparison	Effective length	Effective length	SE
	Diameter	Diameter	SE
	Effective length of stylet	Effective length of stylet	SE
	Outer diameter of stylet	Outer diameter of stylet	SE
	Curve shape	Curve shape	SE
Functional performance	Comply with ISO 11070: 2014	Comply with ISO 11070: 2014	SE
Biological characteristics	Comply with ISO 10993-1	Comply with ISO 10993-1	Similar
Intended	Professional healthcare	Professional healthcare	SE

healthcare environment	environment	environment	
Sterilization method	EO Sterilized	EO Sterilized	SE
Single use	Yes	Yes	SE
Shelf life	3 years	3 years	SE

Substantially Equivalent (SE) Conclusion

Based on the comparison and analysis above, the proposed device is determined to be Substantially Equivalent (SE) to the predicate device.

The proposed and predicate devices share the same intended use and fundamental scientific technology, including principles of operation and mechanism of action. Design and technological differences between the proposed and predicate devices do not raise any new concerns of safety and effectiveness. The results of verification and validation testing demonstrate that the PathBuilder™ Transseptal Needle is substantially equivalent to the predicate device.