January 20, 2023

phenox Limited
Catriona Lynch
Regulatory Affairs Specialist
Kamrick Court,
Ballybrit Business Park,
Galway H91 XY38,
Ireland

Re: K222848
Trade/Device Name: pRESET Thrombectomy Device
Regulation Number: 21 CFR 882.5600
Regulation Name: Neurovascular Mechanical Thrombectomy Device for Acute Ischemic Stroke Treatment
Regulatory Class: Class II
Product Code: POL, NRY
Dated: December 16, 2022
Received: December 19, 2022

Dear Catriona Lynch:

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,

Naira Muradyan -S

Naira Muradyan, Ph.D.
Assistant Director
DHT5A: Division of Neurosurgical,
Neurointerventional
and Neurodiagnostic Devices
OHT5: Office of Neurological
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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)*
K222848

Device Name
pRESET Thrombectomy Device

Indications for Use *(Describe)*
1. The pRESET® Thrombectomy Device is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion, and smaller core infarcts who have first received thrombolytic therapy. Endovascular therapy with the device should be started within 6 hours of symptom onset.
2. The pRESET® Thrombectomy Device is indicated to restore blood flow by removing thrombus from a large intracranial vessel in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for thrombolytic therapy or who fail thrombolytic therapy are candidates for treatment.

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.

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Traditional 510(k) pRESET® Thrombectomy Device

510(k) Summary (21 CFR 807.92)

K222848

I. SUBMITTER

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Date Prepared: 20 January 2023

II. DEVICE

Device Trade Name: pRESET® Thrombectomy Device
Common or Usual Name: Neurovascular Mechanical Thrombectomy Device for Acute Ischemic Stroke Treatment; Catheter, Thrombus Retriever
Classification: Class 2 device according to 21 CFR 882.5600; 21 CFR 870.1250
Product Code: POL, NRY
Review Panel: Neurology

III. PREDICATE DEVICE

Device Name: Solitaire™ 2 Revascularization Device, K162539.
510(k) Submitter: Micro Therapeutics, Inc. d/b/a ev3 Neurovascular

IV. DEVICE DESCRIPTION

The pRESET® Thrombectomy Device is designed to restore blood flow in the neurovasculature by mechanical removal of thrombus in patients experiencing acute ischemic stroke due to large vessel occlusion with thrombus. The device is designed for use in large vessels of the neurovasculature such as the internal carotid artery (ICA) and the middle cerebral artery (MCA). The device is supplied sterile and intended for single use only.

Materials of Use: See table below for details of the materials used in the construction of the pRESET® Thrombectomy Device.

Component	Material
Retrieval Structure	Nitinol
Push-Wire	Stainless Steel Wire
Connector Shell	Nitinol
Marker coils	Platinum/Iridium
Shrink Tubing	PTFE
Introducer Sheath	HDPE

V. INDICATIONS FOR USE

Comparison of Indications for Use for the pRESET ®Thrombectomy Device and predicate device Solitaire™ 2 Revascularization Device.

Parameter	Predicate Device	Subject Device
Indications for Use	1. The Solitaire™ 2 Revascularization Device is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion, and smaller core infarcts who have first received intravenous tissue plasminogen activator (IV t-PA). Endovascular therapy with the device should be started within 6 hours of symptom onset. 2. The Solitaire™ Revascularization Device is indicated to restore blood flow by removing thrombus from a large intracranial vessel in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for IV t-PA or who fail IV t-PA therapy are candidates for treatment.	1. The pRESET® Thrombectomy Device is indicated for use to restore blood flow in the neurovasculature by removing thrombus for the treatment of acute ischemic stroke to reduce disability in patients with a persistent, proximal anterior circulation, large vessel occlusion, and smaller core infarcts who have first received thrombolytic therapy. Endovascular therapy with the device should be started within 6 hours of symptom onset. 2. The pRESET® Thrombectomy Device is indicated to restore blood flow by removing thrombus from a large intracranial vessel in patients experiencing ischemic stroke within 8 hours of symptom onset. Patients who are ineligible for thrombolytic therapy or who fail thrombolytic therapy are candidates for treatment.

VI.COMPARISON OF TECHNOLOGICAL CHARACTERISTICS WITH THE PREDICATE DEVICE

Parameter	Predicate Device	Subject Device
Trade Name	Solitaire™ 2 Revascularization Device	pRESET® Thrombectomy Device
510(k) number	K162539	K222848
Product Classification	II	II
Classification Regulation	21 CFR 882.5600, 21 CFR 870.1250	21 CFR 882.5600, 21 CFR 870.1250
Product Code	POL, NRY	POL, NRY
Principle of Operation	The device is used in the neurovasculature to restore blood flow for treatment of acute ischemic stroke.	The device is used in the neurovasculature to restore blood flow for treatment of acute ischemic stroke.
Device Sizes	4x15mm 4x20mm 4x40mm 6x20mm 6x30mm	4x20mm 5x40mm 6x30mm
Materials	Retrieval Structure- Nitinol Markers- Platinum/Iridium Push Wire- Nitinol Shrink Tubing- PTFE	Retrieval Structure- Nitinol Markers- Platinum/Iridium Push Wire- Stainless Steel Shrink Tubing- PTFE
Use	Sterile, Single Use	Sterile, Single Use
Sterilization Method	Ethylene Oxide	Ethylene Oxide
Packaging	Stored within dispenser coil, Tyvek pouch, and shipping carton.	Stored within dispenser coil, Tyvek pouch, and shipping carton.

VII. PERFORMANCE DATA

BIOCOMPATIBILITY

Biocompatibility testing was conducted based on International Organization for Standardization (ISO) 10993-1:2018: *Biological Evaluation of Medical Devices - Part 1: Evaluation and testing within a risk management process* and the US FDA guidance document "Use of International Standard ISO 10993, 'Biological Evaluation of Medical Devices - Part 1: Evaluation and testing within a risk management process'" (2020). Results confirmed the pRESET® Thrombectomy Device is biocompatible.

Table below summarizes testing performed on the pRESET® Thrombectomy Device.

Biological Effects	Test names	Conclusions
Cytotoxicity	ISO MEM elution – L929 fibroblast cultures	Non-cytotoxic
Sensitization	ISO guinea pig maximization test	No sensitization indicated
Skin Irritation	Rabbit primary skin irritation/ intracutaneous reactivity	No irritation indicated
Systemic toxicity	Material mediated pyrogenicity test	Non-pyrogenic
Systemic toxicity	Acute systemic toxicity	No acute systemic toxicity
Hemocompatibility	Thromboresistance in dogs	Thromboresistant
	In vitro hemocompatibility	No Hemolysis indicated
	Partial thromboplastin time (PTT)	
Hemocompatibility	Hemolysis (ASTM method) direct contact	No Hemolysis indicated
Hemocompatibility	Hemolysis (ASTM method) indirect extract	
Hemocompatibility	Complement activation	No complement activation

STERILIZATION

pRESET® Thrombectomy Device is sterilized by Ethylene Oxide gas. The sterilization cycle has been validated to ensure a sterility assurance level (SAL) of 10^{-6} in accordance with the EN ISO 11135:2014 & A1:2019 and AAMI TIR28:2016.

Aging studies have established the pRESET® Thrombectomy Device packaging remains functional and maintains sterility for up to 3 years. Aging studies for packaging integrity, seal strength and device functionality were performed and met acceptance criteria.

NON-CLINICAL PERFORMANCE DATA

Non-clinical testing was completed to support the substantial equivalence determination to the predicate. The tests are summarized below.

Performance Testing - Bench

The following bench testing was performed to support substantial equivalence.

Test names	Test Description	Conclusions
Simulated Use	It shall be possible to safely and reliably prepare, deploy and retract the device in a nominal and worst-case 3D model as described in the instructions for use without damage to the device.	Pass
Dimensional Verification	Expanded outer diameter (OD) Retriever device length Working length of retrieval device Effective length of retrieval device System length Diameter 10 mm from device connection point Diameter 275 mm from device connection point Length of uncovered marker Marker position Diameter of heat shrink - device connection point Diameter of distal marker coils Length of distal marker coils	Pass

Radial Force	The relative Chronic Outward Force (RCOF) in the labeled vessel diameters must meet acceptance criteria.	Pass
Radiopacity	Proximal and distal ends of the retrieval device must be radiopaque.	Pass
Kink Resistance	The pRESET device will not kink during simulated use in a nominal and worst-case 3D model following the instructions for use.	Pass
	The pRESET stent region does not kink or collapse while passing through a worst-case anatomical model incorporating minimum bend radii.	Pass
System Surface Finish	The external surface of the effective length of the device shall appear free from extraneous matter, process and surface defects.	Pass
A_f Transition Temperature	A_f transition temperature of the pRESET device will be appropriate for clinical usage. Test will use the bend and free recovery method.	Pass
Device Deployment	It shall be possible to safely and reliably deploy the device as described in the instructions for use without damage to the device.	Pass
Retraction into the Microcatheter	It shall be possible to advance a representative microcatheter over the deployed device, at the site of deployment, until it is fully contained within the inner lumen of the microcatheter without damage to the device.	Pass
Delivery and Resheathing Forces	The maximum delivery and resheathing forces measured during simulated use clinical conditions.	Pass
Re-Sheathing	It shall be possible to re-sheath the device, as described in the instructions for use, after it has been prepared deployed and retracted as described in the instructions for use.	Pass

Marker Coil Tensile Strength	The minimum tensile strength of the union between the distal marker coils and the stent retriever shall meet the acceptance criteria.	Pass
System Tensile Strength	The minimum tensile strength of the thrombectomy system is evaluated to the acceptance criteria.	Pass
Torque Strength	The system must not break after 3 full rotations of the insertion wire.	Pass
Ancillary Device Compatibility	It shall be possible to safely and reliably prepare, deploy and retract the device in a nominal and worst-case 3D model per the instructions for use without damage to any ancillary devices listed.	Pass

Performance Testing - Animal

A Good Laboratory Practice (GLP) safety study of the pRESET® Thrombectomy Device in a swine model was executed. This study was initiated to assess the safety and performance of the pRESET device in comparison to a control by evaluating worst-case device use (e.g., 3 passes and 6 re-sheathings of the retrieval device), clot removal, recanalization and device usability performance at both sub-acute (Day 3) and chronic endpoints (Day 30). The control device used for the purpose of the study was the Solitaire™ 2 Revascularization Device. The safety and performance of the pRESET Thrombectomy Device in a swine model of acute vascular occlusion was comparable to the control device.

CLINICAL EXPERIENCE

The pRESET® Thrombectomy Device was the subject of a prospective, multicenter, randomized controlled clinical trial (RCT) to demonstrate the safety and effectiveness of the device, and to evaluate these outcomes against the Solitaire™ Revascularization Device. A summary of the trial design is provided in Table 1.

Table 1: Trial Design Summary

Title	pRESET for Occlusive Stroke Treatment (PROST)
Trial Phase	Pre-market clearance (IDE G190099)
Trial Design	Prospective, multicenter randomized clinical trial
Inclusion Criteria	• Age ≥ 18 years. • Clinical signs consistent with acute ischemic stroke. • Able to be treated within 8 hours of stroke symptom onset & within 1.5 hours (90 min) from screening CT / MRI to groin puncture. • Pre-stroke mRS ≤ 1. • NIHSS ≥ 6 at the time of enrollment. • If t-PA is indicated, initiation of IV t-PA should be administered as soon as possible and no later than 3 hours of onset of stroke symptoms, with investigator verification that the subject has received/is receiving the correct IV t-PA dose (0.9 mg/kg) for the estimated weight. • eTICI ≤ 1 confirmed by angiography that is accessible to the mechanical thrombectomy device in the following locations: a) Intracranial internal carotid b) M1 and/or M2 segment of the MCA c) Carotid terminus d) Vertebral artery e) Basilar artery NOTE: M1 segment of the MCA is defined as the arterial trunk from its origin at the ICA to the first bifurcation or trifurcation into major branches neglecting the small temporal-polar branch. • ASPECTS score must be 6-10 on NCCT or DWI-MRI. If automated core volume assessment software is used: - MR diffusion-weighted imaging (DWI) ≤ 50 cc - Computed tomography perfusion (CTP) core ≤ 50 cc • Subject is willing to conduct protocol-required follow-up visits. • A valid signed and dated informed consent by participant or LAR (legally authorized representative) has been obtained.

Exclusion Criteria	• Received IA t-PA prior to enrollment in the study. • Female who is pregnant or lactating or has a positive pregnancy test at time of admission. • Rapid neurological improvement prior to study enrollment suggesting resolution of signs/symptoms of stroke. • Known serious sensitivity to radiographic contrast agents. • Known sensitivity to nickel, titanium metals, or their alloys. • Enrolled in other investigational studies that would interfere with study endpoints. • Known hereditary or acquired hemorrhagic diathesis, coagulation factor deficiency. • Known renal failure as defined by a serum creatinine > 2.0 mg/dl (or 176.8 µmol/l) or glomerular filtration rate (GFR) < 30. • Requires hemodialysis or peritoneal dialysis, or has a contraindication to an angiogram. • Life expectancy of less than 90 days. • Clinical presentation suggests a subarachnoid hemorrhage, even if initial CT or MRI scan is normal. • Suspicion of aortic dissection. • Comorbid disease or condition that would confound the neurological and functional evaluations or compromise survival or ability to complete follow-up assessments. • Known to currently use or has a recent history of illicit drug(s) or abuses alcohol (defined as regular or daily consumption of more than four alcoholic drinks per day). • Known arterial condition (e.g., proximal vessel stenosis or pre-existing stent) that would prevent the device from reaching the target vessel and/or preclude safe recovery of the device. • Requires balloon angioplasty or stenting of the carotid artery at the time of the index procedure. • Angiographic evidence of carotid dissection. **IMAGING:** • CT or MRI evidence of hemorrhage on presentation. • CT or MRI evidence of mass effect or intra-cranial tumor (except small meningioma). • CT or MRI evidence of cerebral vasculitis. • CT or MRI-DWI showing ASPECTS 0-5. Alternatively, if automated core volume assessment software is used, MRI-DWI or CTP core > 50 cc. • CT or MRI shows evidence of carotid dissection or complete cervical carotid occlusion requiring a stent. • Any imaging evidence that suggests, in the opinion of the investigator, the subject is not appropriate for mechanical thrombectomy intervention (e.g., inability to navigate to target lesion, moderate/large infarct with poor collateral circulation, etc.). • Occlusions in multiple vascular territories (e.g., bilateral anterior circulation, or anterior/posterior circulation) as confirmed by angiography, or clinical evidence of bilateral strokes or strokes in multiple territories.

Randomization	1:1 using stratification factors: • Age: ≥ 65 and < 65 • Site of occlusion: ICA, MCA and BA • Baseline/Enrollment NIHSS score: < 17 and ≥ 17 • Prior IV t-PA usage: Yes and No • Time to symptom onset: ≥ 4 hours and < 4 hours
Sample Size	• Intent-to-Treat Population: 340 subjects: 173 pRESET & 167 Solitaire • Per Protocol Population: 266 subjects: 138 pRESET & 128 Solitaire • As Treated Population: 322 subjects: 166 pRESET & 156 Solitaire
Follow-Up	24 hours, 7 Days, 30 Days & 90 Days
Primary Endpoints	• Proportion of subjects with mRS ≤ 2 at 90 days after the index procedure • Proportion of subjects with device- or procedure-related symptomatic intracerebral hemorrhage (sICH) within 24 hours (-8/+12 hrs) of the index procedure
Secondary Endpoints	• Proportion of subjects with eTICI 2b50 or greater flow in the target vessel post-procedure with ≤ 3 passes of the assigned study device • Proportion of subjects with eTICI 2c or greater following the first pass of the assigned study device • Overall mortality at 90 days following the index stroke • Distribution of mRS shift at 90 days across the entire spectrum of disability

A total of 340 subjects were enrolled and randomized into PROST at 24 sites across the US (n=19) and Germany (n=5): 173 in the pRESET® arm and 167 in the Solitaire arm. Key subject baseline demographics were similar across the two arms (Table 2).

Table 2: Key Baseline Demographics

Parameter	Enrolled (N=340)	pRESET (N=173)	Solitaire (N=167)
Age (years)			
N	340	173	167
Median (Min, Max)	73.0 (29, 96)	73.0 (29, 96)	75.0 (31, 96)
Gender			
N	340	173	167
Male	170 (50.0%)	90 (52.0%)	80 (47.9%)
Female	170 (50.0%)	83 (48%)	87 (52.1%)
NIHSS at Admission			
N	339	173	166
Median (Min, Max)	16.0 (6, 31)	16.0 (6, 29)	16.0 (6, 31)
mRS before Stroke			
0	251 (73.8%)	130 (75.1%)	121 (72.5%)
1	84 (24.7%)	41 (23.7%)	43 (25.7%)
2	3 (0.9%)	1 (0.6%)	2 (1.2%)
Not Reported	2 (0.6%)	1 (0.6%)	1 (0.6%)
ASPECTS Score			
N	336	171	165
Median (Min, Max)	9.0 (6, 10)	9.0 (6, 10)	9.0 (6, 10)
Core Infarct Size (cc)			
N	117	60	57
Median (Min, Max)	10.0 (0, 85)	6.5 (0, 66)	14.0 (0, 85)
Target Occlusion Location			
Left Hemisphere	146 (42.9%)	78 (45.1%)	68 (40.7%)
Right Hemisphere	161 (47.4%)	81 (46.8%)	80 (47.9%)
Posterior	17 (5.0%)	9 (5.2%)	8 (4.8%)
Not Reported	16 (4.7%)	5 (2.9%)	11 (6.6%)

The Intent-to-Treat (ITT) population (n=340) included all subjects who had a signed informed consent form (ICF) and were randomized.

The Per Protocol (PP) population (n=266) included all subjects who underwent treatment with a study device, met the eligibility criteria and had primary effectiveness outcome data.

The As Treated (AT) population (n=322) included all subjects who underwent treatment with a study device, irrespective of device assignment. There were 0 treatment crossovers.

Table 3: Final Subject Disposition

Parameter	Enrolled (N=340)	pRESET (N=173)	Solitaire (N=167)
Randomized	340 (100.0%)	173 (100.0%)	167 (100.0%)
Underwent Study Procedure[1]	322 (94.7%)	166 (96.0%)	156 (93.4%)
Completed Follow-Up			
24 hour	322 (94.7%)	166 (96.0%)	156 (93.4%)
Day 7	296 (87.1%)	152 (87.9%)	144 (86.2%)
Day 30	283 (83.2%)	144 (83.2%)	139 (83.2%)
Day 90[2]	265 (77.9%)	137 (79.2%)	128 (76.6%)
Discontinued from the Study[3]			
Death	47 (13.8%)	24 (13.9%)	23 (13.8%)
Withdrawn	24 (7.1%)	10 (5.8%)	14 (8.4%)
Lost to Follow-Up	2 (0.5%)	0 (0.0%)	2 (1.2%)

[1] Following randomization, 18 subjects did not undergo study Procedure for the following reasons: clot migrated, resolved, or could not be reached, the subject did not meet all eligibility criteria (including absence of a subarachnoid hemorrhage), the study device was not used, or a wire perforation occurred.

[2] The total number of subjects who completed Day 90 follow-up (n=265) differs from the total number of subjects in the PP population (n= 266) as these two populations are not composed of the same subjects. For example, subjects who died prior to Day 90 are excluded from Completed Follow-Up Day 90 but may be included in the PP population as a primary effectiveness outcome data point is available i.e., mRS = 6. Subjects who attended Day 90 follow-up are included in the Completed Follow-Up Day 90 but may be excluded from the PP population as they had a deviation against the eligibility criteria.

[3] Two subjects did not attend the Day 90 follow-up visit; however, these patients remained active in the study at 90 days post-procedure and were confirmed to be alive at Day 90.

The pRESET® Thrombectomy Device was demonstrated to be non-inferior to the Solitaire™ Revascularization Device in the restoration of blood flow in the neurovasculature (eTICI ≥ 2b50) and for the treatment of acute ischemic stroke to reduce disability in patients (mRS ≤ 2 at 90 days) (Table 4). This can be achieved with a similar safety profile to the Solitaire™ Revascularization Device, with the pRESET® Thrombectomy Device demonstrated to be non-inferior in the occurrence of device- or procedure-related symptomatic intracerebral hemorrhage (sICH) within 24 hours of the index procedure (Table 4).

Table 4: Key Outcome Measures (Intent-to-Treat Population)

Primary Effectiveness Endpoint

After 90 days following the procedure, is the lower bound of the 1-sided 95% confidence interval of the difference (pRESET minus Solitaire) in global disability (mRS ≤ 2) above the a priori threshold of -12.5%?

	Total Subjects	90 Day mRS ≤2 n (%)	Confidence Interval (Lower Bound, Upper Bound)
pRESET	173	95 (54.91%)	.
Solitaire	167	96 (57.49%)	.
pRESET minus Solitaire	.	-2.57%	-11.42%, 6.28%

Primary Safety Endpoint

Within 24 hours (-8/+12 hours) after the study procedure, is the upper bound of the 1-sided 95% confidence interval of the difference (pRESET minus Solitaire) with device-related or procedure-related sICH below the a priori threshold of 5%?

	Total Subjects	24 Hour sICH n (%)	Confidence Interval (Lower Bound, Upper Bound)
pRESET	173	0 (0.00%)	.
Solitaire	167	2 (1.20%)	.
pRESET minus Solitaire	.	-1.20%	-2.58%, 0.19%

Secondary Effectiveness Endpoint

Following a maximum of 3 passes of the assigned study device, and based on the best eTICI result within ≤ 3 passes, is the lower bound of the 1-sided 95% confidence interval of the difference (pRESET minus Solitaire) in the proportion of patients with eTICI 2b50 or greater flow in the target vessel post-procedure above the a priori threshold of -12.1%?

	Total Subjects	eTICI ≥ 2b50 n (%)	Confidence Interval (Lower Bound, Upper Bound)
pRESET	173	146 (84.39%)	.
Solitaire	167	149 (89.22%)	.
pRESET minus Solitaire	.	-4.83%	-10.84%, 1.19%

When any additional device usage or more than three passes of the study device are considered failures, regardless of whether the study device alone achieved eTICI ≥ 2b50 before additional passes were attempted or needed the use of an additional device, the performance of the pRESET® Thrombectomy Device and the Solitaire™ Revascularization Device are listed below for all study populations (Table 5).

Table 5: Key Outcome Measures with Additional Device Use and > 3 Passes as Failures

Parameter	ITT Population Success n/N (%)	PP Population Success n/N (%)	AT Population Success n/N (%)
90 Day mRS ≤2			
pRESET	74/173 (42.77%)	67/138 (48.55%)	71/166 (42.77%)
Solitaire	68/167 (40.72%)	60/128 (46.88%)	68/156 (43.59%)
pRESET minus Solitaire	2.06%	1.68%	-0.82%
Confidence Interval (Lower, Upper Bound)	-6.74%, 10.85%	-8.40%, 11.76%	-9.90, 8.27%
eTICI ≥ 2b50			
pRESET	124/173 (71.68%)	105/138 (76.09%)	121/166 (72.89%)
Solitaire	128/167 (76.65%)	98/128 (76.56%)	118/156 (75.64%)
pRESET minus Solitaire	-4.97%	-0.48%	-2.75%
Confidence Interval (Lower, Upper Bound)	-12.76%, 2.82%	-9.05%, 8.10%	-10.76, 5.26%

In total, 231 (67.9%) subjects had at least one adverse event with 105 (30.9%) subjects having a serious adverse event.

There was no difference in the number of adverse events (p-value: 0.7340) or serious adverse events (p-value: 0.7117) between the two arms.

The number of subjects who had a device- or procedure-related serious adverse event also did not differ across the arms (p-value: 0.7663).

Table 6: Adverse Event Data

Parameter	ITT Population (N=340)	pRESET (N=173)	Solitaire (N=167)	P-Value[1]
Adverse Event (AE)				
Number Subjects (%)	231 (67.9%)	119 (68.8%)	112 (67.1%)	.
95% Exact Confidence Interval	.	(61.3%, 75.6%)	(59.4%, 74.1%)	0.7340
Serious Adverse Event (SAE)				
Number Subjects (%)	105 (30.9%)	55 (31.8%)	50 (29.9%)	.
95% Exact Confidence Interval	.	(24.9%, 39.3%)	(23.1%, 37.5%)	0.7117
Procedure and/or Device Related SAE				
Number Subjects (%)	28 (8.2%)	15 (8.7%)	13 (7.8%)	.
95% Exact Confidence Interval	.	(4.9%, 13.9%)	(4.2%, 12.9%)	0.7663

[1]P-Value obtained from a generalized linear model with the randomized treatment assignment as the dependent variable

The majority of device- or procedure-related serious adverse events were classed as Nervous System Disorders (Table 7).

Table 7: Device- or Procedure-Related Serious Adverse Events

System Organ Class Preferred Term	ITT Population (N=340)	pRESET (N=173)	Solitaire (N=167)
Cardiac Disorders	**1 (0.3%)**	**1 (0.6%)**	**0 (0.0%)**
Acute Myocardial Infarction	1 (0.3%)	1 (0.6%)	0 (0.0%)
Gastrointestinal Disorders	**1 (0.3%)**	**1 (0.6%)**	**0 (0.0%)**
Vomiting	1 (0.3%)	1 (0.6%)	0 (0.0%)
Infections & Infestations	**1 (0.3%)**	**1 (0.6%)**	**0 (0.0%)**
Pneumonia	1 (0.3%)	1 (0.6%)	0 (0.0%)
Injury, Poisoning & Procedural Complications	**5 (1.5%)**	**4 (2.3%)**	**1 (0.6%)**
Post Procedural Stroke	1 (0.3%)	1 (0.6%)	0 (0.0%)
Vascular Access Site Complication	1 (0.3%)	1 (0.6%)	0 (0.0%)
Vascular Pseudoaneurysm	2 (0.6%)	1 (0.6%)	1 (0.6%)
Vasoplegia Syndrome	1 (0.3%)	1 (0.6%)	0 (0.0%)
Nervous System Disorders	**21 (6.2%)**	**9 (5.2%)**	**12 (7.2%)**
Basal Ganglia Hematoma	1 (0.3%)	1 (0.6%)	0 (0.0%)
Brain Edema	1 (0.3%)	0 (0.0%)	1 (0.6%)
Cerebral Artery Embolism	1 (0.3%)	0 (0.0%)	1 (0.6%)
Cerebral Artery Occlusion	1 (0.3%)	0 (0.0%)	1 (0.6%)
Cerebral Hemorrhage	2 (0.6%)	1 (0.6%)	1 (0.6%)
Cerebral Infarction	2 (0.6%)	0 (0.0%)	2 (1.2%)
Cerebral Reperfusion Injury	1 (0.3%)	0 (0.0%)	1 (0.6%)
Cerebrovascular Accident	3 (0.9%)	2 (1.2%)	1 (0.6%)
Hemorrhage Intracranial	3 (0.9%)	1 (0.6%)	2 (1.2%)
Hemorrhagic Transformation Stroke	2 (0.6%)	1 (0.6%)	1 (0.6%)
Hydrocephalus	1 (0.3%)	0 (0.0%)	1 (0.6%)
Intracranial Mass	1 (0.3%)	0 (0.0%)	1 (0.6%)
Stroke In Evolution	2 (0.6%)	1 (0.6%)	1 (0.6%)
Subarachnoid Hemorrhage	3 (0.9%)	1 (0.6%)	2 (1.2%)
Vertebral Artery Dissection	1 (0.3%)	1 (0.6%)	0 (0.0%)
Respiratory, Thoracic & Mediastinal Disorders	**1 (0.3%)**	**0 (0.0%)**	**1 (0.6%)**
Respiratory Failure	1 (0.3%)	0 (0.0%)	1 (0.6%)
Vascular Disorders	**2 (0.6%)**	**1 (0.6%)**	**1 (0.6%)**
Peripheral Ischemia	1 (0.3%)	0 (0.0%)	1 (0.6%)
Vascular Dissection	1 (0.3%)	1 (0.6%)	0 (0.0%)

VIII. CONCLUSIONS

phenox Ltd. have demonstrated that the pRESET® Thrombectomy Device is substantially equivalent to the Solitaire™ 2 Revascularization Device (K162539) through a multicenter, prospectively designed, randomized controlled trial. The randomized controlled trial design minimizes the uncertainty and bias of the trial results by allowing the discrimination of patient outcomes that are caused by the pRESET Thrombectomy Device from outcomes that may be caused by other factors. pRESET® Thrombectomy Device has the same intended use, similar technological characteristics, similar materials and the same operating principle as the predicate device. Substantial equivalence is demonstrated through bench, animal and clinical testing.