



U.S. FOOD & DRUG
ADMINISTRATION

U.S. Food & Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20903
www.fda.gov

Memorandum

Date: September 30, 2024

To: Damia Jackson, GWCPM, OHT1
From: Alexander Beylin, Ph.D, Biomedical Engineer, OHT1/DHT1A/THTA3
Through: Elvin Ng, Assistant Director, OHT1/DHT1A/THTA3

Subject: ICC2400704, ICCR 01008051, BLA 125798

Study: (b) (4)
Sponsor: (b) (4)

References

- [1] Document 32r3-device.pdf. Section 3.2.R.3 Device (section 3.4.6 and related sections).
- [2] Document coc-rm-0002.pdf. PAC Clip (gripper) CoC- RM-0002;
- [3] Document dwg-0847-20105.pdf. DWG-0847-2015 (Gripper drawing);
- [4] Document nt-501-drawing-00014545.pdf. NT-510 Drawing #00014545 (Complete Device Drawing)
- [5] Document nt-501-bio-eval.pdf. NT-501 Biological Evaluation Report (section 4.1.2 and related sections);
- [6] Document vr002-2.pdf. VR002-2 Verification of ISO Biocompatibility Testing on the NT-510 Device Gripper
- [7] Document device-fmea-ra-0140.pdf. NT-501 Device Design FMEA RA-0140;
- [8] Document device-fmea-ra-0141.pdf. NT-501 Device Process FMEA RA-0141;
- [9] Document device-ra-0143.pdf. NT-501 Device Risk Management Report RA-0143;
- [10] Document device-fmea-ra-0146.pdf. NT-501 Device Use-Related FMEA-0146;

- [11] Document supplier-memo-gripper.pdf. Supplier Memo-Gripper
- [12] Document nt-501-ifu-word.docx. For the use of the gripper during the surgical procedure, please refer to the document titled nt-501-ifu-word (pages 26-32) a. Submission information [Type]: Docubridge b. Supporting Document Number/Description: Included in the list above. c. Document received Date: N/A d. Other Relevant Submissions: IND 10931
- [13] Document ICCR 01008051 - Submitted.pdf
- [14] Document vr003-5.pdf – (b) (4) Inspection Method for PAC Clip Jaw Retention Strength

Scope

From [13]

The gripper (or clip) is used for administration of NT-501. Specifically, the gripper aids to position the NT-501 within the surgical incision and is then removed by depressing its lever arm to release the product.. The requestor solicited OHT1 assessment on the adequacy of the information provided in the submission to support safe and effective used as proposed per NT-501-ifu-word, pages 26-32.

BACKGROUND:

The NT-501 is a combination product indicated to treat patients diagnosed with chronic, retinal disorders, macular telangiectasia (MacTel) and glaucoma. It is consisting of a implantable capsule made of permeable membrane filled with therapeutic drug (biologic). The implant is delivered to the end user in a fluid filled plastic container, attached to the titanium gripper and Luer Lock Cap. The gripper (or clip) is used for administration of NT-501. Specifically, the gripper aids to position the NT-501 within the surgical incision and is then removed by depressing its lever arm to release the product. Therefore, the gripper is serving as a manual ophthalmic surgical instrument (CFR 21 Sec. 886.4350). The consults scope is to receive OHT1 assessment on the adequacy of the information provided in the submission to support that the device can be use safely and effectively used as proposed per nt-501-ifu-word.

Device description

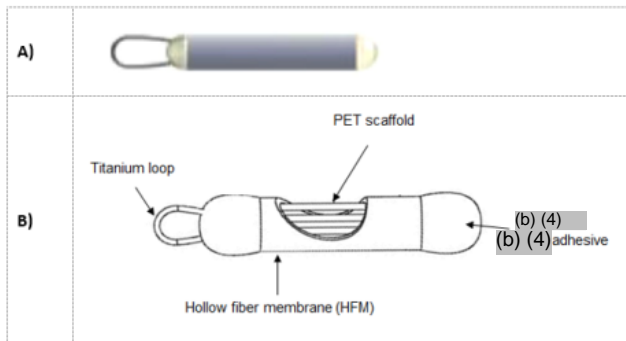
From [1]:

General

The primary NT-501 device constituent is the semi-permeable capsule (i.e., capsule) that is designed to house and protect encapsulated allogeneic retinal epithelial cells genetically modified to secrete recombinant human ciliary neurotrophic factor (CNTF). The NT-501 semi-

permeable capsule is comprised of a semipermeable (b) (4) hollow fiber membrane (HFM) containing an internal scaffold of (b) (4) of polyethylene terephthalate scaffold yarn, titanium fixation loop, sealed with a (b) (4) methacrylate (b) (4) adhesive (b) (4) (Figure 1). The active region membrane component of the capsule is approximately (b) (4) mm long, with an internal diameter of approximately 0.87 mm and a wall thickness of approximately (b) (4) mm. The physical characteristics of the HFM allow for the outward diffusion of protein/drug and the inward diffusion of nutrients necessary to support encapsulated cell survival.

Figure 1: NT-501 Capsule (A) and Cutaway Representation of the Capsule (B)



The overall dimension of the capsule is approximately 6.5 mm long, with a maximum external diameter of 1.2 mm. A titanium fixation loop attached to one end of the capsule is used to facilitate placement during insertion and retrieval upon removal (Figure 2). Placement of NT-501 in the surgical insertion procedure requires a 3.0 mm incision in the pars plana.

Figure 2: NT-501 Capsule Dimensions (Approximate)



The mass and the surface area of the NT-501 semipermeable capsule and each of the four constituent device components (HFM, titanium fixation loop, (b) (4) cured adhesive seals, and PET scaffold) were evaluated in study R479-2. The average and percent mass and the percent

surface area of each component of the NT-501 capsule and the final mass and total surface area of the assembled NT-501 capsule are detailed in Table 3 and Table 4, respectively.

Table 3: NT-501 Capsule and Component Mass

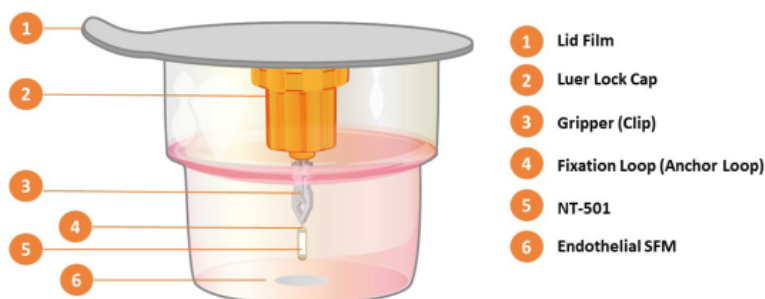
Component	Mass	Part of Total NT-501 Capsule Mass
NT-501 Capsule	(b) (4)	(b) (4)
HFM (CHFM)		
PET Scaffold		
Titanium Fixation Loop		
(b) (4) Adhesive Seals		

Table 4: NT-501 Capsule and Component Mass

Component	Average Surface Area	Part of Total NT-501 Capsule Surface Area
NT-501 Capsule	(b) (4)	(b) (4)
PES HFM		
PET Scaffold		
Titanium Anchor Loop		
(b) (4) Adhesive Seals		

NT-501 is provided to the user in an outer polyethylene terephthalate glycol (PETG) container hermetically sealed with foil lid film which provides the sterile barrier and protection to the inner polycarbonate sealed container and NT-501 (Figure 3). The inner container is sterile and provides additional protection to the NT-501.

Figure 3: NT-501 Suspended Within the Sterile Primary Package (Inner Container)



NT-501 is held in the lower compartment of the inner container, suspended in liquid medium to sustain the NT-501 during transport and storage, by a titanium gripper attached to a luer lock cap. The luer lock cap and the gripper are also used to handle and manipulate NT-501 during product preparation and insertion into the eye. The titanium gripper holds the NT-501 at its titanium fixation loop, as shown in Figure 4.

Figure 4: NT-501 Attached to Titanium Gripper and Luer Lock Cap

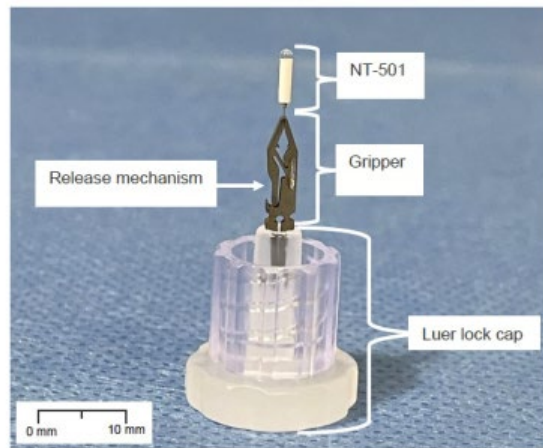


Table 5: Description of Primary Container and Contents

Primary Container and Components	Description
Primary Container	The primary container is molded from Class IV polycarbonate resin and provides protection to the NT-501 held in the lower compartment and suspended in (b) (4) of Endothelial SFM (i.e., liquid medium).
Lid Film	The foil lid film provides a barrier for the upper compartment of the inner container. It can be peeled back to reveal the luer lock cap.
Luer Lock Cap	A luer lock cap is attached to the gripper and is used to suspend NT-501 in liquid medium within the inner packaging. It is also used to handle and manipulate NT-501 during preparation and insertion.
Liquid Medium (Endothelial SFM)	The liquid medium provides a nutrient rich environment to sustain NT-501 during storage and transport.
Gripper	The gripper holds the NT-501 by the fixation loop. Squeezing the gripper releases the NT-501.
Fixation Loop	A fixation loop that is attached to one end of the NT-501. It is used to suture the NT-501 to the sclera.
NT-501	The NT-501 is a sealed semi-permeable capsule that is of 6.5 mm length and approximately 1.3 mm width.

The sterile primary (inner) container is sealed within the secondary (outer) PETG container (Figure 5) which maintains sterility of the inner container and is labeled with the manufacturing lot information.

Figure 5: Sealed, Secondary Package (Outer Container) Providing Sterility Barrier and Protection to NT-501 Primary Container (Label not Shown)

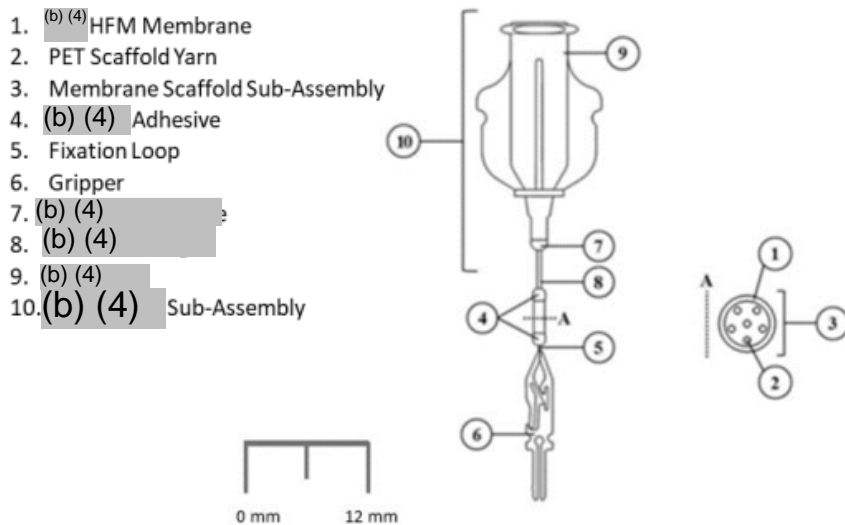


NT-501 Pre-assembled Capsule (PAC)

Prior to encapsulation (cell injection), the empty NT-501 device constituent is known more specifically as pre-assembled capsules or PACs. As schematically detailed in Figure 6, each fully assembled PAC also includes a (b) (4) and a titanium gripper. The (b) (4) are assembled to create a (b) (4) subassembly, which is the main conduit for interfacing the semi-permeable capsule portion of the PAC with the encapsulation (b) (4) equipment.

Figure 6 shows a fully assembled NT-501 PAC and Table 6 further details each component, component materials, and sub-assemblies of the NT-501 PAC.

Figure 6: NT-501 PAC Assembly



Detailed description of the gripper component

Function and Material Description

The NT-501 Gripper (or “clip”; Figure 13) attaches to the fixation loop of NT-501 and is used to facilitate packaging, handling, and implantation of the product. Following fixation loop insertion and adhesive seal, the gripper retention jaws are attached onto the fixation loop at a specified distance from the adhesive seal. Following cell encapsulation, the gripper is securely seated into a Luer cap (Figure 13), which in turn is threaded into the NT-501 primary packaging.

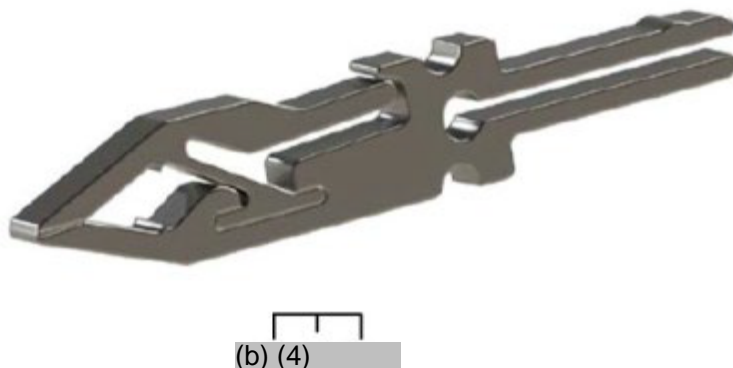
At the time of implant, the Luer lock cap/gripper unit provides a means of sterile presentation of NT-501 to the surgical field and the gripper is used as the surgeon interface for implantation. Once NT-501 is seated within the incision, the lever arm is depressed to release the gripper from the anchor loop.

To ensure material stability and safety of contact with NT-501, each gripper is cut from class (b) (4) titanium sheets, made (b) (4)

(b) (4) supplied the NT-501 gripper throughout the NT-501 program; however, Neurotech will add an additional supplier for the NT-501 gripper, after BLA approval, and plans to submit the change as a CBE-30. The additional supplier is (b) (4) an already approved supplier of the NT-501 titanium fixation loop. Further details are provided in Supplier Memo-Gripper.

Each gripper is composed of 2 interlocking parts (base and top) that form a jaw clamp on the proximal end. The base component has a grooved grip point/insertion stop and luer cap insertion arms on the distal end for mating with NT-501 Primary Packaging. The top component is laser welded to the bottom component at the mid-point of the implant gripper. A lever arm, created by the laser welding point, can be depressed to open the gripping jaws. Each part is (b) (4) thick and the total nominal length of the assembled clip is (b) (4)

Figure 13: Image of NT-501 Gripper



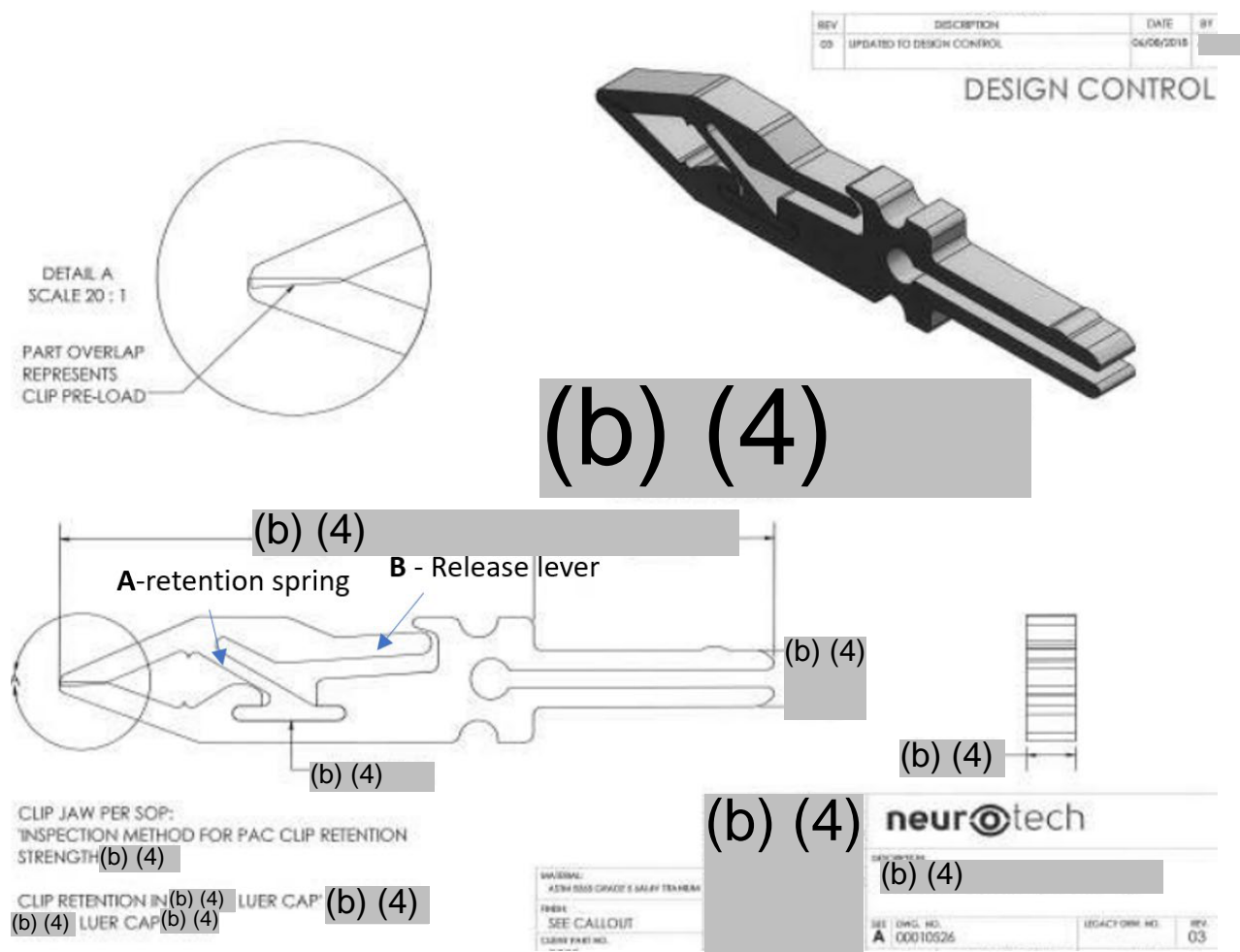
Raw Material Specifications of NT-501 Gripper

The gripper is made by (b) (4).

Clip Jaw retention: Retention of (b) (4) weight. Meets AQL acceptance criteria based on lot size.

Clip Retention in luer lock cap: Clip retained in luer cap holding (b) (4) weight Meets AQL acceptance criteria based on lot size.

Adopted, from [3]



Based on the design, it appears that the loop of the implant is clamped between the jaws of the gripper and held in place by the bending force of the retention spring **A**. Depressing the release level **B** opens the jaws and the loop of the NT-501 implant is released. The obvious concern is the mechanical failure of the gripper due to the inadequate design. For example, the clamping force of the retention spring may be insufficient for holding the implant securely during surgical manipulation or the jaws may not be opened wide enough to release the loop when the release lever is depressed. Therefore, evaluation of the functional / performance requirements (clip retention, clip / anchor loop retention) is needed to ensure safe and effective operation.

Additional concerns are related to biocompatibility and sterility of the grip.

In [7] the sponsor provided the following risk assessment related to the mechanical failure of the gripper.

Identifier	Product / Element	Potential Failure Mode	Potential Failure Effects	Severity (1 to 5)	Potential Cause of Failure Mode	Likelihood of Occurrence (1 to 5)	Current Design Controls	Risk Index (RI = S x O)	Recommended Actions	Actions Taken and Verified	Residual Severity	Residual Likelihood of Occurrence	Residual Risk (RS x RO)
D5.1	Gripper (also known as Clip)	Mechanical/Placement failure (Device falls off Gripper in transit/storage)	Incorrect preparation/incorrect equipment : Extended procedure time (Minor)	2	Incorrectly selected material or geometry of mechanism	3	Gripper design and material controlled via (b) (4) Specification (b) (4) and (b) (4) PR023, Gripper Retention of (b) (4) weight.	6	Design with proper material and geometry to survive transit and storage	Proper Gripper function validated - Human Factors Summary Report 8609 0083A. Verified in VR003-5	2	2	4
D5.2		Mechanical Failure - Unable to release device	NT-501 unavailable : Extended procedure time (Moderate)	3	Incorrectly selected material or geometry	3	Gripper design and material controlled via (b) (4) Specification (b) (4) and (b) (4)	9	Design with proper material and geometry to allow Gripper release.	Proper Gripper function validated - Human Factors Summary Report 8609 0083A.	3	2	6
D5.3		Biocompatibility with patient and biologic	Insufficient biocompatibility can lead to toxic reaction: blindness	5	Insufficient material selection or purity	2	PR006: Use of established materials appropriate for implantation (b) (4) (duration).	10	Design with materials of sufficient quality and purity to ensure biocompatibility	Gripper has been designed with Titanium which is biocompatible (b) (4) (duration). Biocompatibility validated per animal study R331 and clinical studies NTMT-03A and NTMT-03B. Verified in VR002-2.	5	1	5

Use of the device

From [12], Section 4.1

- ii. Holding the luer lock cap, insert NT-501 perpendicularly to the globe through the scleral incision until only the fixation loop is exposed. See Figure 25 and 26.

Note

While inserting NT-501, aim towards the optic nerve and away from the lens and out of the visual axis.



Caution

- Avoid inserting NT-501 towards the lens or deeply into the eye. Do not insert NT-501 beyond the fixation loop.

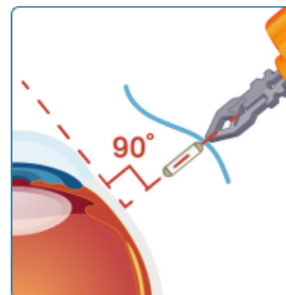


Figure 25 Perpendicular entry of NT-501

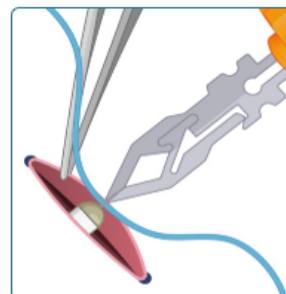


Figure 26 Insert NT-501

4.1 NT-501 insertion (continued)

- iii. Using forceps or needle holders, squeeze the gripper in the indicated region to release NT-501. See Figure 27.

① Note

The traction suture might need to be released to allow visualization of the gripper release site.

Squeezing below the indicated region or using other methods to release NT-501 may crush the gripper, making it difficult or impossible to release. If the release fails, discard NT-501, obtain a new one and prepare it for use. If none are available, close the surgical wound.

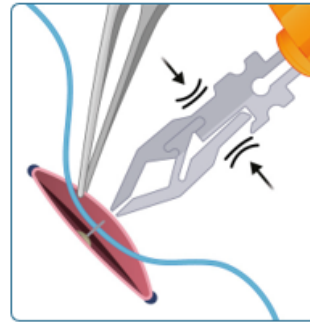


Figure 27 Release NT-501



Caution

- Avoid inserting NT-501 towards the lens or deeply into the eye. Do not insert NT-501 beyond the fixation loop.

Based on these illustrations, the gripper should hold the implant securely and should be also securely connected to the lure lock cap. The sponsor defined retention strength as (b) (4)

Biocompatibility evaluation

From [1]

In alignment with the August 31, 2023, Pre-BLA Meeting Minutes, a comprehensive biocompatibility evaluation has been performed for NT-501 (final sterilized device) in accordance with ISO 10993-1:2009 Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process, to ensure that the NT-501 device constituent is safe for the patient from biological and toxicological perspectives. The risk assessment is performed in accordance with ISO 14971, which involves identification of biological hazards, estimation of the associated biological risks, and determination of their acceptability. The biological evaluation is based on the information relating to the chemical nature of the device's materials and information relating to the manufacturing process for the NT-501 final sterilized device and titanium gripper. Appropriate biocompatibility endpoint safety testing was conducted according to ISO 10993-1 in addition to chemical characterization and toxicological risk assessment over product development. Multiple animal studies have also been performed which provide further insight to the biocompatible nature of the NT-501, in addition to long-term safety information gained from human clinical trials.

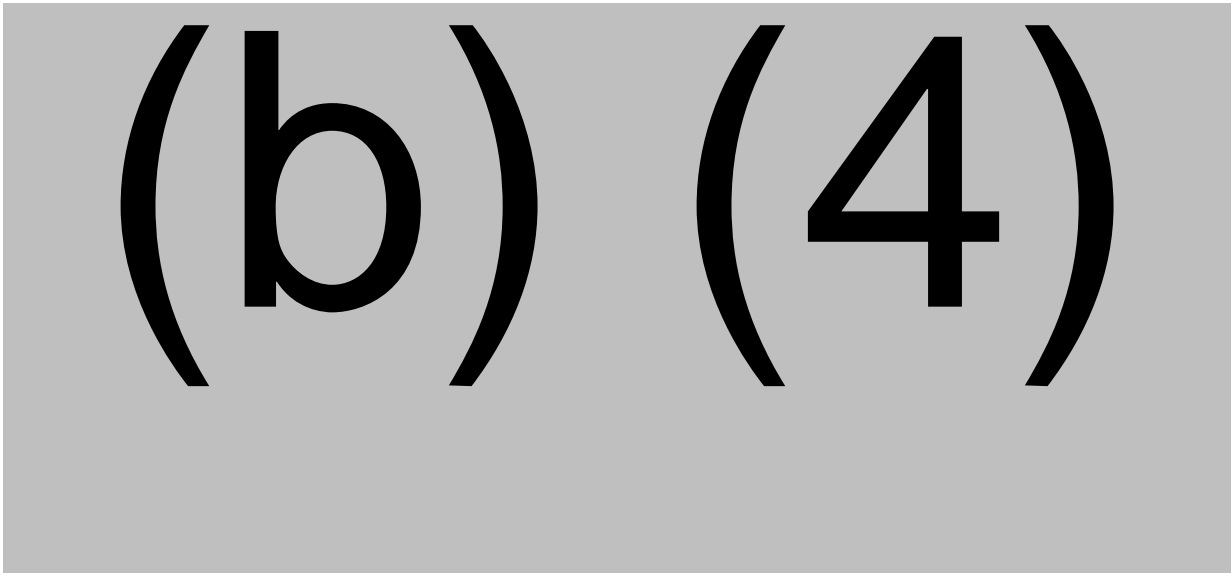
This information is detailed in the [NT-501 Biological Evaluation Report](#).

The collective data from biocompatibility endpoint testing, chemical characterization/toxicological assessment, animal testing, and human clinical testing form the basis to determine the ultimate biological safety and risk/benefit associated with NT-501 for its intended use.

From [5]

NT-501 Biological Evaluation Report

Table 13: NT-501 Titanium Gripper

A large gray rectangular area covering the table content, indicating that the data has been redacted. The redaction is marked with the text (b) (4) in large black font.

(b) (4)

Biocompatibility tests appear acceptable. However, based on the internal discussion with OHT1 Biocompatibility focal point Dr. Simona Bancos while the gripper could be “squeezed” into a class 1, 510(k) exempt device category, it is also used as part of “the primary packaging” of the biological product. Therefore, during sterilization (if applicable) and storage, chemicals may be transferred from the gripper to the biological product and ultimately to patient’s eye. CBER has biocompatibility reviewers on their team and depending on the approach taken by the company (e.g., biological/toxicological assessment of NT-501 after shelf life), CDRH may not need to be involved in the biocompatibility assessment if NT-501 was evaluated (e.g., implantation studies, biological testing) after the proposed shelf life.

In some manual ophthalmic instruments used for gripping the objects (e.g., forceps) the gripping force applied to the object or tissue is controlled by the surgeon. In the other instruments (e.g., surgical clamps), this force is pre-defined and controlled by the geometrical design and mechanical properties of the materials. This instrument belongs to the second category of the instruments. The sponsor should provide evidence that the gripper is adequately designed to securely holding the NT-501 implant during surgical implantation and releasing it in the eye when needed. These type of performance tests should be conducted on the bench., however I was unable to find any testing information in the provided documents referenced above.

In Table 16 NT-501 Device Verification Testing Summary (p.71) the company states that “All tested samples met the acceptance criteria of (b) (4) weight retention strength” and that the verification report VR003-5 is located in IND 10931. However, this verification test report was not included in the

supporting documents provided for (b) (4)

Corresponding request was sent to the project coordinator, who communicated the following deficiency:

Interactive deficiency

According to Table 13: NT-501 Device Design Inputs included in p.43 of your document 32r3-device.pdf, the designed requirement (b) (4) states that the gripper should maintain the strength of (b) (4) weight. However, we were unable to find any information on rationale for this functional requirement. Specifically, we were unable to find any justification why this requirement is adequate to securely hold and manipulate the NT-501 device during surgical implantation procedure. Also, we were unable to find any information on the functional requirements for the release mechanism of the gripper. For example, you did not specify the distance between the jaws once the release bar is depressed. Please provide this information or refer to the appropriate section in the provided documentation where the design requirements for the gripper functional are justified. This information is needed to ensure that your gripper was properly designed to perform its function safely and effectively during implantation procedure of the NT-501 device.

Neurotech Response

As described in Section 3.2.R.3 of BLA 125798, the NT-501 gripper enables the Ophthalmologist to present the NT-501 in a sterile manner to the surgical field for implantation. Once NT-501 is seated within the incision, the lever arm is depressed to release the gripper from the anchor loop.

The sequence of surgical steps that involve the NT-501 gripper are listed below along with reference to the NT-501 Instructions for Use (IFU).

- IFU Page 24: Unlock the luer lock cap with one complete counter-clockwise turn. Lift the luer lock cap vertically to remove NT-501, which should be attached to the gripper.
- IFU Page 25: Rinse NT-501 with at least 5 mL of sterile Balanced Salt Solution (BSS) prior to insertion, until no excess liquid medium is left on the surface.
- IFU Page 26: Pass a double-armed 9-0 polypropylene suture needle through the fixation loop and pull one fourth of the suture length through.
- IFU Page 27: Holding the luer lock cap, insert NT-501 perpendicularly to the globe through the scleral incision until only the fixation loop is exposed.
- IFU Page 28: Using forceps or needle holders, squeeze the gripper in the indicated region to release NT-501.

The maximum forces applied to the NT-501 during these surgical steps are minimal during the procedure when performed by a trained Ophthalmologist following the IFU; however, the force applied to the NT-501 would be the greatest when NT-501 is placed into the scleral incision of the eye, as the device will contact the incision surface where the NT-501 could possibly become dislodged from the gripper.

In Study R091, Neurotech studied the implantation forces applied to the NT-501 in a rabbit model. Implantation of NT-501 in the rabbit eye were performed and the resistive forces (gram force) to implant measured via an (b) (4) testing unit. The results showed that the NT-501 device averaged 2 grams of resistance. The maximum resistance to device insertion was 4 grams and was from a clinical membrane (CHFM) NT-501 device. When accounting for the differences in scleral elastic modulus and thickness between the rabbit and human eye, the extrapolated forces

a device would experience during implant into the human eye average approximately (b) (4) grams with maximum forces approaching (b) (4) grams.

Therefore, the (b) (4) gram (force) requirement for the gripper to hold the NT-501 device represents more than a 4-fold factor of safety to ensure that the NT-501 can be securely held and manipulated during the surgical implantation procedure.

Additionally, all (b) (4) Ophthalmologists in the NT-501 Human Factors Validation Study were able to successfully unlock the luer cap (Step A.3.1.2), remove the gripper with NT-501 attached from inner container (Step A.3.1.3), rinse the NT-501 (Step A.3.1.4), pass the double-armed 9-0 polypropylene suture through fixation loop (Step A.3.1.7), insert the NT-501 perpendicularly into the scleral incision in the porcine eye (Step A.4.1.2), and squeeze the gripper to release the NT-501 (Step A.4.1.3) without any instances of unintended NT-501 dislodgement from the NT-501 gripper (see [Module 5.3.5.4 Other Study Reports – Human Factors](#)).

Regarding the functional requirement for the NT-501 gripper release mechanism, the gripper should be able to accept and hold the NT-501 anchor loop (diameter: (b) (4) in.) during production (assembly of the PAC) and provide adequate clearance between the gripper jaw and anchor loop upon depression to allow release of the NT-501 implant.

Adequate NT-501 assembly, specifically anchor loop to gripper assembly, is ensured during production and tested at Neurotech upon incoming inspection through retention testing (see [Table 18](#), Section 3.2.R.3, BLA 125798).

The clearance of the gripper jaws to release the NT-501 has been characterized in report (R627) wherein (b) (4) lots of NT-501 grippers (b) (4) grippers from each lot) have been measured when fully depressed and exhibits (b) (4) in. total clearance; sufficient to release the (b) (4) in. (nominal) diameter NT-501 anchor loop.

In conclusion, Neurotech believes the aforementioned information and studies reaffirm that the gripper has been properly designed to perform its function safely and effectively during the NT-501 implantation procedure.

The highlighted sections of the response justifies design characteristics of the gripper based on the animal data and dimensions of the loop, which are reasonable. In addition, an interactively provided document [14] includes the Jaw retention strength. In this document, the sponsor provided test jaw strength and clip retention strength in luer cap for total of (b) (4) grippers sampled from (b) (4) different production batches. All samples meet the requirements.

(b) (4)

Regulatory considerations

Sec. 886.4350 defines “Manual ophthalmic surgical instrument as Class I (general controls) devices with following identification:

“A manual ophthalmic surgical instrument is a nonpowered, handheld device intended to aid or perform ophthalmic surgical procedures. This generic type of device includes the manual corneal burr, ophthalmic caliper, ophthalmic cannula, eyelid clamp, ophthalmic muscle clamp, iris retractor clip, orbital compressor, ophthalmic curette, cystotome,

orbital depressor, lachrymal dilator, erisophake, expressor, ophthalmic forceps, ophthalmic hook, sphere introducer, ophthalmic knife, ophthalmic suturing needle, lachrymal probe, trabeculotomy probe, cornea-sclera punch, ophthalmic retractor, ophthalmic ring (Flieringa), lachrymal sac rongeur, ophthalmic scissors, enucleating snare, ophthalmic spatula, ophthalmic specula, ophthalmic spoon, ophthalmic spud, trabeculotome or ophthalmic manual trephine.

The implant gripper is designed to securely hold and manipulate the object (i.e., an implant) during the surgical (i.e., implantation) procedure. Therefore, functionally the gripper is similar to the other manual ophthalmic instruments designed for the purpose of holding and manipulating the objects, such as .

Notably, 886.4350 regulation includes not only the general use ophthalmic instruments (e.g., ophthalmic knife, ophthalmic suturing needle), but also the specialized instruments specifically designed to perform certain procedure (e.g., lacrimal dilator, trabeculotomy probe). In that respect, the gripper designed to hold and manipulate the NT-501 implant is similar to the other specialized surgical ophthalmic instruments.

Besides the intended use, the important factor for determination of the classification and regulatory requirements are assessment of the risks of the device to the patient. The risk of the gripper and the manual ophthalmic instruments are similar and include the following concerns:

- a) Design: Inadequate design of the device may detrimentally affect performance.
- b) Sterility. Inadequate sterility of the instrument may cause eye infections.
- c) Biocompatibility. Inadequate biocompatibility of the raw material of the instrument or substances used in manufacturing process may cause adverse reaction of the tissue.
- d) Manufacturing. The instrument should be manufactured using pre-specified acceptance criteria for the dimensions, tolerances, material property and quality of the surface to minimize risk of the mechanical failure, deposition of the particulate matter.

For the gripper, the above risks are identified, assessed and mitigated in the provided documents [7-10].

In conclusion, based on commonality of the intended use and risks, I believe that the gripper for NT-501 implant should be also regulated as a manual ophthalmic surgical instrument under CFR 21 Sec. 886.4350.

Conclusion

Based on information provided, I believe that the gripper was properly designed and tested to ensure safe and effective operation as per user's manual. The device has low risk and well understood risks, which can be mitigated through the pre-clinical tests. Based on the proposed mode of operation and intended use I believe that the gripper should be regulated as Class I device under the manual ophthalmic surgical instrument regulation CFR 21 Sec. 886.4350.