UNIVERSITY of SOUTH FLORIDA

SINGLE SOURCE CERTIFICATION

Authority is requested to make the following purchase under the provision of USF System Regulation USF4.02010(IV)(A)(2)(b) as a non-competitive purchase available from only one source. By submitting this form, department acknowledges that existing exemptions will not apply to this purchase. Single source requests exceeding $150,000 must be signed by a Procurement Director and posted publicly for (3) business days.

DATE: 11/15/23

ITEM(S): iPerfusion2 with In Vivo Capability

PRICE: $ 171,445.00 **FUND #:** TBD

SUPPLIER ID: TBD **REQUISITION#:** TBD

SUPPLIER NAME: I C Consultants Limited

FEDERAL GRANT: ○ Y ◉ N

In your words, describe the equipment, commodity, or contractual service. Explain how these specifications are essential to the accomplishment of your work:

See attached #1.

In your own words, describe the reason(s) the item is not subject to competition from other sources and how the stated specification(s) restrict the requisition to only one supplier. Description may include unique features/compatibility/specifications/availability/delivery time frame etc. (Note: Price is not a valid reason).

See attached #2.

In your own words, describe the due diligence conducted to validate this supplier as Single Source. Description SHOULD list all other suppliers with item(s)/service(s) with similar functions, your efforts to identify other suppliers, and why these suppliers would not qualify to submit a competitive quote.

See attached #3.

DocuSigned by:
Jeff Elliott
3186290C7B74438...

11/15/2023 | 09:38 EST

START 11/16/23 END 11/20/23

Approved By (Procurement) **DATE** **PUBLIC POSTING DATES**

Authority: USF4.02010(IV)(A)(2)(b)

Last Modified: 05/10/2021

OFFICE OF THE UNIVERSITY CONTROLLER, PROCUREMENT SERVICES
University of South Florida | 4202 E Fowler Avenue, | Tampa, FL 33620-4301
813-974-2481 | usf.edu/

1. In glaucoma, the resistance to drainage of fluid from the eye increases, and correspondingly pressure in the eye increases, causing irreversible damage to the retinal ganglion cells, leading to blindness. USF research is focusing on using stem cells to lower the aqueous humour outflow resistance in glaucoma and thereby limit damage to the retina and preserve vision. Hence it is necessary to measure the drainage resistance. USF investigates and optimizes the efficacy of stem cells as a novel therapeutic method using animal models (typically mice, but sometimes larger animals) and ex vivo human eyes which are hard to source but can confirm the findings in mice with limited number. While intraocular pressure (IOP) could be measured as a downstream indicator of efficacy in live animal models, there are multiple factors that affect it, so the results would not be conclusive. In the ex vivo human eyes, resistance is the only meaningful readout. Correspondingly, there is an increasing expectancy of resistance measurements by the scientific community and industry when describing treatment designed to affect the resistance. Hence, to appropriately investigate USF's proposed research to explore novel and effective treatments for glaucoma, it is essential to measure this resistance. The proposed suite of state-of-the-art technology, custom built for USF requirements, would allow USF to do this in a repeatable, user-friendly and accurate way.
2. Measurement of resistance is a technically challenging task, requiring accurate control of pressure, temperature and humidity with complex user interfacing. The corresponding data analysis is also a highly specialized task. For the mouse eye in particular, the flow rates are on the order of 10 nl/min (a nl is a billionth of a litre), requiring precision in every aspect of the measurement. Although simple systems using a syringe pump have been reported in the literature, several recent papers have demonstrated that previous approaches were prone to errors of several hundred percent, coupled with terrible usability that led to much data being unusable or unreliable. To address this problem, the consultant (Dr. van Batenburg-Sherwood at Imperial College London) designed and developed "iPerfusion" – a different approach to the measurement. iPerfusion has now become the gold-standard in measuring outflow facility. Since the first publication in 2016, more than 30 papers have been published using this technology. The iPerfusion is used in the world-leading labs in the field, with many having multiple systems to increase throughput: Imperial College London (2 systems), Duke Eye Center (4 systems), Columbia University (2 systems), Georgia Tech (1 system), Iowa University (1 system), Stowers Research Institute (1 system), Trinity College Dublin (1 system). Each user requires different designs and specifications. Hence Dr. van Batenburg-Sherwood and his team build each system, install it onsite and train the users. The field of glaucoma research focused on the drainage tissues of the eye is relatively small, with only 10s of research teams over the world. Furthermore, each user requires different designs and specifications, particular to their research questions and available budget and lab space. For these reasons, a commercial option would not be viable, and hence the consultant and his team build each system, install it and train the users. In short, there are no commercially available systems for this measurement, so custom technology must be sought. The consultant is the only person in the world who can build this accurate technology for measuring tissue resistance in the eye.
3. The consultant is the only person in the world with the experience and expertise to deliver this specialized technology. The contract includes not only the physical hardware, custom built for our requirements, but also software for data analysis and critically, the experience and expertise of the consultant from over 10 years of work in the field.