

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
UCL BUSINESS PLC	04/12/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	QUEEN MARY UNIVERSITY OF LONDON
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<b>City:</b>	LONDON
<b>State/Country:</b>	UNITED KINGDOM
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
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<b>SIGNATURE:</b>	/Angela M. Domitrovich/
<b>DATE SIGNED:</b>	10/22/2019
<b>Total Attachments: 12</b>	
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The logo for UCLB, featuring the letters 'UCLB' in a bold, sans-serif font. The letters are contained within a stylized, trapezoidal shape that tapers at both ends, with a horizontal line passing through the middle of the letters.

**ASSIGNMENT AGREEMENT**

between

**UCL BUSINESS PLC**

and

**QUEEN MARY UNIVERSITY OF LONDON**

Dated: 12<sup>th</sup> April 2019

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THIS AGREEMENT is made the 12<sup>th</sup> day of April 2019

**BETWEEN:**

- (1) **QUEEN MARY UNIVERSITY OF LONDON**, a body registered in England under number RC000710 having its registered address at Mile End Road, London E1 4NS ("University")
- and
- (2) **UCL BUSINESS PLC**, whose registered office is The Network Building, 97 Tottenham Court Road, London W1T 4TP ("UCLB").

**WHEREAS:**

- A. Gareth Ackland (the "Inventor") was a full-time employee of University College London (UCL) and was engaged by UCL to carry out research. The Inventor is currently an employee of QMUL.
- B. During the course of the Inventor's employment at UCL, the Inventor made certain inventions and developed technology, materials and/or know-how relating to 'Real-Time Biosensing of Immunotransmitters' as described further in Schedule 1 (the "Technology"). The Technology includes the specific items of intellectual property described in Schedule 2.
- C. UCLB is a wholly-owned subsidiary of UCL, formed to exploit intellectual property generated at UCL. UCL and the Inventor have assigned to UCLB all of their rights, title and interest in the Technology.
- D. QMUL and UCLB have agreed the terms of a revenue sharing agreement to be entered into by QMUL and UCLB on the same date as this Agreement and relating to the exploitation of the Technology (the "Revenue Sharing Agreement").
- E. UCLB now wishes to assign to QMUL all of its right, title and interest in the Technology, and QMUL wishes to take an assignment of the Technology, subject to and in accordance with the provisions of this Agreement.

**NOW IT IS AGREED as follows:**

**1. ASSIGNMENT**

- 1.1 In consideration of QMUL executing the Revenue Sharing Agreement and the sum of £1 (one pound sterling) now paid by QMUL to UCLB (receipt and sufficiency of which is hereby acknowledged by UCLB), UCLB hereby assigns and transfers to QMUL absolutely with full title guarantee all of its right, title and interest in and to the Technology, including (if applicable):
- 1.1.1 in respect of each and any invention disclosed or comprised within the Technology, the right to file patent applications for such invention in or in respect of any country or territory in the world;

- 1.1.2 in respect of any and each patent application comprised within the Technology and any patent applications filed for inventions disclosed or comprised within the Technology (the "Patent Applications"):
- (i) the right to claim priority from, and to prosecute and obtain grant of patent on, such Patent Application; and
  - (ii) the right to file divisional applications based thereon and to prosecute and obtain grant of patent on each and any such divisional application;
  - (iii) the right to extend to or register in, or in respect of, any country or territory in the world each and any of the Patent Applications, and any patents granted on any such Patent Applications or any divisionals thereof;
  - (iv) the right to extend the term of any patents granted on any Patent Applications or any divisionals thereof;
  - (v) the absolute entitlement to any patents granted pursuant to any of the Patent Applications or any divisionals thereof; and
  - (vi) the right to elect to reject or submit to the competence of the Unitary Patent Court in respect of any patent granted pursuant to any Patent Application pursuant to Article 83(3) of the Agreement on a Unified Patent Court (2013/C 175/01) or to validate any such patent as a patent that has unitary effect by virtue of Regulation (EU) No 1257/2012;
- 1.1.3 all rights to bring or defend any claims, actions or proceedings (and to retain any damages recovered), and/or to appeal any award or judgements issued, in respect of any infringement or challenge to validity or entitlement, or any other cause of action arising from ownership, of the Patent Applications or any patents granted pursuant to such Patent Applications or any divisionals thereof, whether occurring before or after the date of this Agreement;
- 1.1.4 all right, title and interest in and to the copyright works, design rights and/or database rights listed in Schedule 2;
- 1.1.5 the right to bring, make, oppose, defend, appeal proceedings, claims or actions and obtain relief (and to retain any damages recovered) in respect of any infringement, or any other cause of action arising from ownership, of any of the copyright works, design rights and/or database rights listed in Schedule 2 whether occurring before, on, or after the date of this Agreement;
- 1.1.6 to the maximum extent permitted by applicable law, and subject to Clause 1.2, all rights in respect of the know-how, trade secrets and technical information described in Schedule 2; and

- 1.1.7 all intellectual property rights in and physical possession and ownership of the materials listed in Schedule 2.
- 1.2 To the extent that the Technology includes any know-how and technical information protected under the laws governing confidential information and/ or trade secrets protected by the EU Trade Secrets Directive (Directive 2016/943):
- 1.2.1 UCLB hereby transfers to QMUL such rights as it may have in law to prevent the unlawful or unauthorised acquisition, use or disclosure of or access to such know-how, technical information and trade secrets;
- 1.2.2 if required to do so by QMUL, UCLB will make such acknowledgements to third parties as QMUL may reasonably require stating that QMUL owns all right in and to such know-how, technical information and trade secrets and that UCLB does not retain any ownership rights in such know-how, technical information and trade secrets.
- 1.3 To the extent that the Technology includes any materials or other physical property, UCLB:
- 1.3.1 shall provide (and shall ensure that the Inventor provides) to QMUL (promptly on QMUL's request) the samples and other items of such property described in Part D of Schedule 2;
- 1.3.2 warrants that Part E of Schedule 2 sets out a full and accurate description of the quantities of any materials or any other physical property included in the Technology that, to the best of its knowledge, are in existence and are not being supplied to QMUL under this Agreement ("Retained Items"); and
- 1.3.3 shall not provide the Retained Items to any other person or commercial organisation and shall not use the Retained Items for any purpose other than is permitted by Clause 3.
- 1.4 To the extent that the Technology includes any materials which have been obtained, or are derived, from a human subject (the "Human Materials"), UCLB hereby warrants to QMUL that UCLB has the right to transfer custodianship of the Human Materials to QMUL. UCLB shall not provide to QMUL any information which may enable QMUL to identify any donor of the Human Materials or any other personal data or personally identifiable information.
- 1.5 UCLB shall execute such documents and give any assistance, at QMUL's expense and request, as QMUL may reasonably require for the purpose of giving effect to this Agreement.

## 2. WARRANTIES, REPRESENTATIONS AND UNDERTAKINGS

- 2.1 UCLB hereby warrants, represents and undertakes to QMUL that:
- 2.1.1 it has obtained an assignment from the Inventor of all of the Inventor's right, title and interest in and to the Technology;

- 2.1.2 it is the registered proprietor of any Patent Applications and has caused all of its employees who are named as inventors on such Patent Applications to execute such assignments as may be necessary to pass all of their right, title and interest in and to those patent applications to QMUL;
- 2.1.3 it is the sole legal and beneficial owner of, and owns all the rights and interests in, the Technology and is entitled to assign all right, title and interest in and to the Technology to QMUL pursuant to this Agreement;
- 2.1.4 so far as it is aware (having made appropriate enquiries of the Inventor but not of any third parties or conducted any freedom to operate searches), use and exploitation of the Technology will not infringe the intellectual property rights of any third party;
- 2.1.5 so far as UCLB is aware (having made appropriate enquiries of the Inventor but not of any third parties), the Technology is not subject to any claims, proceedings, challenges or litigation (whether actual, pending or threatened) relating to ownership or validity and is not subject to any third party rights or encumbrances;
- 2.1.6 it has not been and is not currently a party to any agreement or understanding, whether oral or written, which would in any manner be inconsistent with the assignment of rights provided for in this Agreement;
- 2.1.7 during the term of this Agreement it shall not enter into any agreement or understanding, oral or written, nor engage in any activity, which would in any manner be inconsistent with the provisions of this Agreement; and
- 2.1.8 all materials described in Schedule Z have been obtained in compliance with all ethical and legal requirements (including the Human Tissue Act 2004 and applicable data privacy laws, including the Data Protection Act 1998).

### **3. RESERVATION OF RIGHTS**

- 3.1 UCLB reserves for itself and UCL the non-exclusive, irrevocable, worldwide, royalty-free right to use the Technology for UCLB's and UCL's own internal non-commercially funded research, publication and teaching.

### **4. GENERAL**

#### **4.1 Amendment.**

This Agreement may only be amended in writing signed by duly authorised representatives of QMUL and UCLB.



**4.2 Assignment.**

Neither party shall assign, mortgage, charge or otherwise transfer or deal with any rights or obligations under this Agreement without the prior written consent of the other party.

**4.3 Waiver.**

Any waiver given under or in relation to this Agreement shall be in writing and signed by or on behalf of the relevant party. No failure or delay on the part of any party to exercise any right or remedy under this Agreement shall be construed or operate as a waiver thereof, nor shall any single or partial exercise of any right or remedy preclude the further exercise of such right or remedy.

**4.4 Invalid Clauses.**

If any provision or part of this Agreement is held to be invalid, amendments to this Agreement may be made by the addition or deletion of wording as appropriate to remove the invalid part or provision but otherwise retain the provision and the other provisions of this Agreement to the maximum extent permissible under applicable law.

**4.5 No Agency.**

Neither party shall act or describe itself as the agent of the other party, nor shall any party make or represent that it has authority to make any commitments on the other party's behalf.

**4.6 Interpretation.**

In this Agreement:

- 4.6.1 the headings are used for convenience only and shall not affect its interpretation;
- 4.6.2 references to persons shall include incorporated and unincorporated persons; references to the singular include the plural and vice versa; and references to the masculine include the feminine;
- 4.6.3 references to Clauses and Schedules mean clauses of, and schedules to, this Agreement;
- 4.6.4 where the word "including" is used it shall be understood as meaning "including without limitation";
- 4.6.5 any reference to any English law term for any action, remedy, method or judicial proceeding, legal document, legal status, court, official or any legal concept or thing shall in respect of any jurisdiction other than England be deemed to include what most nearly approximates in that jurisdiction to the English law term; and
- 4.6.6 time shall be of the essence in relation to the performance of UCLB's obligations under this Agreement.

**4.7 Law and Jurisdiction.**

The validity, construction and performance of this Agreement, and any contractual and non-contractual claims arising hereunder, shall be governed by English law and shall be subject to the exclusive jurisdiction of the English courts to which the parties hereby submit.

**4.8 Entire Agreement.**

The parties acknowledge that they are not relying on any representation, agreement, term or condition which is not set out in this Agreement. This Agreement, including its Schedules, sets out the entire agreement between the parties relating to its subject matter and supersedes all prior oral or written agreements, arrangements or understandings between them relating to such subject matter. Nothing in this Agreement will, however, operate to limit or exclude any liability for fraudulent misrepresentations.

**4.9 Third parties.**

This Agreement does not create any right enforceable by any person who is not a party to it ("Third Party") under the Contracts (Rights of Third Parties) Act 1999, but this Clause does not affect any right or remedy of a Third Party which exists or is available apart from that Act.

**4.10 Announcements.**

Neither party shall make any press or other public announcement concerning any aspect of this Agreement without the prior, express written consent of the other party.

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SCHEDULE 1  
GENERAL DESCRIPTION OF THE TECHNOLOGY

92-037: Real-Time Biosensing of Immunotransmitters

There is a real need to be able to diagnose immunosuppression and to be able to monitor the health of the immune system in normal individuals and in patients at risk of acquiring infections, both in hospital and the community. Current biomarkers are crude, non-specific and frequently lead to erroneous antibiotic use, which is associated with serious side-effects. dynamic, real-time, easy to use test performed by healthcare professional at the bedside to enable immune function to be assessed in an objective fashion would enable focussed, considered treatments including the rationale use of antibiotics - an urgent healthcare priority. If such tests were "calibrated" against large population norms- and delivers for specific pathologies- targets treatments could be delivered.

Real-time biosensing of molecules released by immune cells, both in their resting state and following specific challenges in whole blood (obtained by finger pin-prick test) can identify characteristic patterns of immune response. This near-patient test can be performed at the bedside/clinic and give a readout within 2 minutes. This is an unparalleled, rapid signal which enables point-of-care diagnosis and therapy, without requiring alternative expensive, time-consuming technology. Furthermore, the ease of use and technological robustness enables unparalleled, cost-effective immunophenotyping in large populations of healthy and unwell individuals. There are no comparable technologies available, and much of the basic biologic research has been conducted in this laboratory.

The basic premise of the IP is that specific immunotransmitters/molecules are released upon activation of immune cells. This activation can be blocked by specific antagonists. Through different patterns of release, characteristic signatures associated with, or diagnostic of, specific immune states (e.g. lack of response is consistent with immunosuppression) can be deciphered. Current work demonstrates that these signatures change with the release of several molecules in time- and concentration-dependent patterns. Furthermore, the mode, timing and type of stimulus can be manipulated to reveal differential sensor detection.

**SCHEDULE 2**

**SPECIFIC ITEMS OF INTELLECTUAL PROPERTY OR OTHER PROPERTY**

A. The following patent applications and patents:

- PCT/GB/2015/051986 Diagnostics filed on 08/07/2015

Any patent applications, continuations, continuations-in-part, extensions, reissues, divisions, and any patents, supplementary protection certifications and similar rights that are based on or derive priority from the above patent applications and patents.

B. The following copyright works, design rights, and database rights:

n/a

C. All know-how and technical information generated by UCLB and the inventor and which relates to the technology as described in Schedule 1 and in the other sections of this Schedule 2 including:

n/a


D. The following materials:

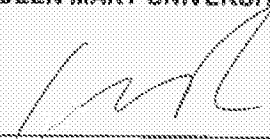
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This Agreement has been executed and takes effect on the date stated at the beginning of it

For and on behalf of  
UCL BUSINESS PLC

For and on behalf of  
QUEEN MARY UNIVERSITY OF LONDON

  
Signed

  
Signed

Print name  
**DR ANNE LANE**  
Managing Director  
UCL Business PLC

Dr Graeme Brown  
Print name  
Director Technology Transfer QMUL

Title

Title

12/4/19  
Date

11/04/19  
Date

