

PATENT ASSIGNMENT COVER SHEET

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NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
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THOMAS VOIT	07/11/2018
VIRGINIE MARIOT	07/11/2018
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Property Type	Number
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DATE SIGNED:	09/16/2019
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ASSIGNMENT AGREEMENT

between

University College London

and

UCL Business Plc

and

Julie Dumonceaux

and

Thomas Voit

and

Virginie Mariot

and

Dated:

12 November 2018

THIS AGREEMENT IS A LEGAL DOCUMENT. Signing this document will have legally binding consequences; it is recommended that independent legal advice is sought before signing this Agreement.

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THIS AGREEMENT is made the 12 day of November 2018

BETWEEN:

- (1) **UNIVERSITY COLLEGE LONDON**, incorporated by Royal Charter in the United Kingdom, whose address is Gower Street, London WC1E 6BT (the "University");
 - (2) **UCL BUSINESS PLC**, whose registered office is The Network Building, 97 Tottenham Court Road, London W1T 4TP ("UCLB");
 - and
 - (3) **JULIE DUMONCEAUX**, whose home address is at 29 Dudley Gardens, London, W13 9LU, United Kingdom;
 - and
 - THOMAS VOIT**, whose home address is at 1505 Charrington Tower, 11 Biscayne Ave, London, E14 9BE, United Kingdom;
 - and
 - VIRGINIE MARIOT**, whose home address is at 72 Cranmer Avenue, London, W13 9XU, United Kingdom;
- (together known as the "Inventors").

WHEREAS:

- A. The Inventors are full-time employees of the University, and are engaged by the University to carry out research.
- B. The Inventors have made certain inventions and developed technology, materials and/or know-how relating to *Myostatin companion diagnostic and biomarker* 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 the University, formed to commercialise intellectual property generated at the University.
- D. UCLB and the Inventors have agreed the terms of a revenue sharing agreement to be entered into by UCLB and the Inventors on the same date as this Agreement and relating to the exploitation of the Technology (the "Revenue Sharing Agreement").
- E. The Inventors and the University each wish to assign to UCLB all of their right, title and interest in the Technology, and UCLB 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 UCLB executing the Revenue Sharing Agreement and the sum of £1 (one pound sterling) now paid by UCLB to each of the Inventors and the University (receipt and sufficiency of which is hereby acknowledged by each of them), the Inventors and the University each hereby assign and transfer to UCLB absolutely with full title guarantee all of their 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 Assigned Property 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 Patent Applications 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 on 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 Assigned Property 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 the Inventors and the University each hereby transfer to UCLB such rights as they 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 to the extent that such rights cannot be, or are not, transferred by virtue of the provisions of Clause 1.2.1, the Inventors and the University each agree to be joined in any action (whether as claimant or otherwise) brought by UCLB or its nominee, or to raise proceedings in their own name if required, against any third party that is alleged to have unlawfully acquired, accessed, used or disclosed any trade secret or to be making unauthorised use of, or to have disclosed in breach of an obligation of confidentiality, the know-how and technical information, subject to UCLB reimbursing each of them for any damages, costs and expenses actually and reasonably incurred in relation to any such action;
 - 1.2.3 subject to Clause 4, and for so long as each of the know-how, technical information and trade secrets remains confidential and is not publicly known (other than as a result of breach of this Clause 1.2.3 by the Inventors or the University), each of the Inventors and the University will neither use nor disclose any such know-how, technical information and trade secrets without the prior written consent of UCLB;

- 1.2.4 each of the Inventors and the University warrant and represent that it is not aware of any disclosure of such know-how, technical information and trade secrets to any third party, prior to the date of this Agreement, except under written obligations of confidentiality;
 - 1.2.5 each of the Inventors and the University warrant to UCLB that none of the know-how, technical information or trade secrets constitutes personal data or personally identifiable information; and
 - 1.2.6 if required to do so by UCLB, each of the Inventors and the University will make such acknowledgements to third parties as UCLB may reasonably require stating that UCLB owns all right in and to such know-how, technical information and trade secrets and that neither the Inventors nor the University retains any ownership rights in such know-how, technical information and trade secrets.
- 1.3 To the extent that the Assigned Property includes any materials or other physical property, each of the Inventors and the University:
- 1.3.1 shall provide to UCLB (promptly on UCLB's request) the samples and other items of such property described in Part D of Schedule 2;
 - 1.3.2 warrants and represents 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 Assigned Property that, to the best of their knowledge, are in existence and are not being supplied to UCLB 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 4.
- 1.4 To the extent that the Assigned Property includes any materials which have been obtained, or are derived, from a human subject (the "Human Materials"), the Inventors and the University each hereby warrant and represent to UCLB that they have the right to transfer custodianship of the Human Materials to UCLB. Neither the Inventors nor the University shall provide to UCLB any information which may enable UCLB to identify any donor of the Human Materials or any other personal data or personally identifiable information.
- 1.5 Each of the Inventors and the University shall provide to UCLB (promptly on UCLB's request) all information and documentation and give such assistance (including executing and delivering documents) as UCLB may require at the expense of UCLB for the purpose of giving full effect to this Agreement, including:
- 1.5.1 to secure the vesting in UCLB of all rights in the Technology;

- 1.5.2 to uphold UCLB's rights in the Technology including the bringing of any actions as contemplated by Clause 1.2.2; and
- 1.5.3 to bring, make, oppose or defend any claims, actions or challenge to the entitlement, validity or ownership of, and to resolve any questions concerning, the Technology.

2. WARRANTIES, REPRESENTATIONS AND UNDERTAKINGS

2.1 Each of the Inventors and the University hereby warrant, represent and undertake to UCLB that:

- 2.1.1 so far as it is aware (having made no enquiry 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;
- 2.1.2 so far as it is aware (having made not made any enquiries 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 right or encumbrances;
- 2.1.3 it has not by act or omission caused or permitted anything which might jeopardise the registration or enforceability or application for registration of any registerable intellectual property comprised within the Technology;
- 2.1.4 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;
- 2.1.5 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
- 2.1.6 all materials described in Schedule 2 (if any) 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).

2.2 The Inventors warrant, represent and undertake to UCLB that they have disclosed to UCLB in writing the names of all persons of whom he or she is aware who might have rights in the Technology, including any other persons who were involved in developing the Technology, and any organisations that funded such development of the Technology.

3. MORAL RIGHTS

The Inventors hereby waive any moral rights in the Technology to which they now or may at any future time be entitled under Chapter IV of the Copyright Designs and Patents Act 1988 or any similar provisions of law in any jurisdiction, including the right to be identified, the right of

integrity and the right against false attribution, and agrees not to institute, support, maintain or permit any action or claim to the effect that any treatment, exploitation or use of the Technology infringes the Inventors' moral rights.

4. RESERVATION OF RIGHTS

4.1 The University, and the Inventors for as long as they are employees of the University, shall each have the non-exclusive, irrevocable, worldwide, royalty-free right to use the Technology for the University's and the Inventors' own internal non-commercially funded research, publication and teaching.

4.2 In addition, the University shall have the non-exclusive, irrevocable, worldwide, royalty-free right to license other academic institutions to use the Technology in research collaborations with the University, and to grant licences of the Technology to post graduate students of the University for the purpose of conducting a programme of post graduate academic research.

5. GENERAL

5.1 Amendment.

This Agreement may only be amended in writing signed by duly authorised representatives of UCLB, the University and the Inventors.

5.2 Assignment.

Neither UCLB, the University nor the Inventors 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 parties.

5.3 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.

5.4 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.

5.5 No Agency.

None of the parties shall act or describe itself as the agent of any other party, nor shall any party make or represent that it has authority to make any commitments on any of the other parties' behalf.

5.6 Interpretation.

In this Agreement:

- 5.6.1 the headings are used for convenience only and shall not affect its interpretation;
- 5.6.2 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;
- 5.6.3 references to Clauses and Schedules mean clauses of, and schedules to, this Agreement;
- 5.6.4 where the word "including" is used it shall be understood as meaning "including without limitation";
- 5.6.5 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
- 5.6.6 time shall be of the essence in relation to the performance of the Inventors' obligations under this Agreement.

5.7 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.

5.8 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.

5.9 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.

5.10 Announcements.

None of the parties shall make any press or other public announcement concerning any aspect of this Agreement without the prior, express written consent of the other parties.

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SCHEDULE 1
GENERAL DESCRIPTION OF THE TECHNOLOGY

02-219: Myostatin companion diagnostic and biomarker

Muscle atrophy is a consequence of many and diverse neuromuscular disorder including, but not limited to, spinal muscular atrophies, congenital myopathies, inclusion body myopathy, but also various forms of muscular dystrophies, which lead to muscle wasting. The progressive loss of muscle tissue is one of the biggest challenges for therapy in the neuromuscular field. Myostatin is a protein synthesized by skeletal muscle and secreted into the circulation which, when activated, inhibits muscle growth primarily through a muscle-resident receptor, ActIIb. Several drugs targeting the Myostatin pathway (anti-myostatin antibodies, anti-ActIIb antibodies, or the myostatin-antagonizing protein follistatin) have been used in clinical trials to increase muscle mass and improve function but so far, all drugs failed to improve muscle function in patients when taken to phase 3 trials.

This invention is based on the first systematic study of serum and muscle studies of the myostatin protein and other components of the myostatin pathway such as follistatin and the ActIIb receptor in a range of patients with neuromuscular diseases including Duchenne and Becker muscular dystrophies, facioscapulohumeral muscular dystrophy, various limb girdle muscular dystrophies, and inclusion body myopathy. These diseases were chosen because they were target disease of previous anti-myostatin treatment approaches.

It has been observed that the myostatin pathway (at both gene and protein level) is strongly down regulated in muscle, and consequently in serum, in DMD, FSH, IBM, and LGMD. This down regulation directly explains why an anti-myostatin therapy is unlikely to be a viable therapeutic approach in these patients. It is also shown that in patients with partial expression of the mutated protein (BMD) and in some patients with IBM the myostatin levels are more variable and allow for specific selection of patients eligible for such a therapeutic approach. Finally, it has also been shown, in a mouse model of congenital myopathy based on a ko of the X-linked gene MTM1 that while absence of MTM1 induces severe down regulation of the myostatin pathway in this atrophic muscle disease, AAV-mediated gene correction is capable of restoring the myostatin levels in skeletal muscle. This experiment is an example of how a gene rescue therapy can make an atrophying neuromuscular disease eligible for additional anti-myostatin therapy.

SCHEDULE 2

SPECIFIC ITEMS OF INTELLECTUAL PROPERTY OR OTHER PROPERTY

A. The following patent applications and patents:

UK Patent Application No. 1703869.6 Method, filed on 10/03/2017


UK Patent Application No. 1713597.1 Method, filed on 24/08/2017

Combined into PCT Application No. GB2018/050619 Method, filed on 12/03/2018

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

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

By JULIE DUMONCEAUX

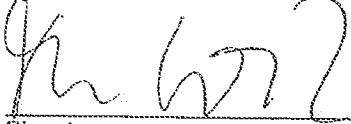

Signature

DUMONCEAUX
Print name

Principal Research Associate
Job title

07/11/18
Date

By THOMAS VOIT


Signature

Thomas Voit
Print name

Dist. Univ. BRC
Job title

07/11/2018
Date

By VIRGINIE MARIOT


Signature

MARIOT V.
Print name

Research Associate
Job title

07/11/18
Date

For and on behalf of

UNIVERSITY COLLEGE LONDON



Signature

Print name

Dr Anne Lane
Authorised UCL Signature

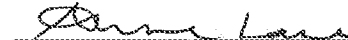
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Date

12/11/18

For and on behalf of

UCL BUSINESS PLC



Signature

Print name

Dr Anne Lane
Executive Director
UCL Business PLC

Job title

Date

12/11/18