

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM656794

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
PBS BIOTECH, INC.		06/29/2021	Corporation: DELAWARE
RECEIVING PARTY DATA			
Name:	BROADOAK FUND V, L.P., AS AGENT		
Street Address:	4800 Montgomery Lane, Suite 230		
City:	Bethesda		
State/Country:	MARYLAND		
Postal Code:	20814		
Entity Type:	Limited Partnership: DELAWARE		
PROPERTY NUMBERS Total: 6			
Property Type	Number	Word Mark	
Registration Number:	3948858	PBS BIOTECH	
Serial Number:	90093073	VERTICAL-WHEEL	
Serial Number:	90093077	PBS MINI	
Serial Number:	88938522		
Serial Number:	88938524		
Serial Number:	88938526		
CORRESPONDENCE DATA			
Fax Number:	2028427899		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
Phone:	202-776-2046		
Email:	jmfitzpatrick@cooley.com		
Correspondent Name:	JENNIFER FITZPATRICK		
Address Line 1:	C/O COOLEY LLP		
Address Line 2:	1299 Pennsylvania Avenue, NW, Suite 700		
Address Line 4:	WASHINGTON, D.C. 20004-2400		
ATTORNEY DOCKET NUMBER:	340168-103		
NAME OF SUBMITTER:	JENNIFER FITZPATRICK		
SIGNATURE:	/JENNIFER FITZPATRICK/		
DATE SIGNED:	06/29/2021		

CH \$165.00 3948858

Total Attachments: 5

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of June 29, 2021 by and between BROADOAK FUND V, L.P. (“Agent”) and PBS BIOTECH, INC., a Delaware corporation (“Grantor”).

RECITALS

A. Purchaser has agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the “Advances”) in the amounts and manner set forth in that certain Note Purchase and Security Agreement by and between Agent, the Purchasers and Grantor dated as of June 29, 2021 (as the same may be amended, modified or supplemented from time to time, the “Note Purchase Agreement”; capitalized terms used herein are used as defined in the Note Purchase Agreement). The Purchaser is willing to make the Advances to Grantor, but only upon the condition, among others, that Grantor shall grant to Agent a security interest in certain Copyrights, Trademarks, Patents, and mask works to secure the Obligations of Grantor under the Note Purchase Agreement.

B. Pursuant to the terms of the Note Purchase Agreement, Grantor has granted to Agent a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Note Purchase Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure the Obligations under the Note Purchase Agreement, Grantor grants and pledges to Agent a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property (including without limitation those Copyrights, Patents and Trademarks listed on Exhibits A, B and C hereto), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof.

This security interest is granted in conjunction with the security interest granted to Agent under the Note Purchase Agreement. The rights and remedies of Agent with respect to the security interest granted hereby are in addition to those set forth in the Note Purchase Agreement and the other Note Documents, and those which are now or hereafter available to Agent, as a matter of law or equity. Each right, power and remedy of Agent provided for herein or in the Note Purchase Agreement or any of the Note Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Agent of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Note Purchase Agreement or any of the other Note Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, of any or all other rights, powers or remedies.

Grantor hereby authorizes Agent to file and/or record, in the relevant office(s), including the United States Patent and Trademark Office and the United States Copyright Office, this Intellectual Property Security Agreement and any and all amendments and/or modifications hereto, including to the Exhibits attached hereto from time to time, and other documents, without the signature of Grantor either in Agent's name or in the name of Agent as Agent and attorney-in-fact for Grantor.

Sections 11 (Choice of Law and Venue; Jury Trial Waiver; Judicial Reference), 12.2 (Indemnification), 12.4 (Severability of Provisions), 12.6 (Amendments in Writing; Waiver; Integration), 12.7 (Counterparts), 12.10 (Attorney's Fees, Costs and Expenses) and 12.11(Electronic Execution of Documents) of the Note Purchase Agreement is incorporated herein by this reference as though set forth in full.

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

PBS BIOTECH, INC.

Signature: Brian Lee

Print Name: Brian Lee

Title: CEO

AGENT:

BROADOAK FUND V, L.P.

Signature: William Snider

Print Name: William Snider

Title: Manager

[Signature Page to Intellectual Property Security Agreement]

EXHIBIT A

Copyrights

Description
N/A

Registration Number

Registration Date

EXHIBIT B

Patents

<u>Description</u>	<u>Patent/App. No.</u>	<u>File Date</u>
Programmable and closed fluid flow system to extract fluid from a bioreactor for sampling of therapeutic cells.	8,281,672 US12/727,719	3/19/2010
Division of US14/153,679. Claims focus on sterilizing vessel and microcarriers together, then introducing and later retaining microcarriers in vessel using mesh filter.	10,059,915 US15/496,753	4/25/2017
Mixing vessel and media dispensing device for homogeneous mixing and dispensing of cells.	10,323,223 US15/413,077	1/23/2017
Retention of microcarriers in bioreactor using mesh filter and gravity-based liquid draining.	9,637,717 US14/153,679	1/13/2014
Added additional embodiment of Vertical-Wheel impeller and U-shaped vessel. Continuation-in-part of applications US11/739,089 and US12/606,519.	8,790,913 US12/884,431	9/17/2010
Continuation of application US12/884,431. Claims amended to further describe Vertical-Wheel impeller design and importance to cell culture process.	9,453,194 US14/444,695	7/28/2014
Continuation of application US14/444,695. Claims further amended.	10,081,787 US15/276,681	9/26/2016
Retractable tube that can rapidly extract liquid for harvest or medium exchange processes.	US15/394,282	12/29/2016
Repeated expansion and dissociation of cell aggregates to control diameter and maximize yield in a single bioreactor.	US16/460,021	7/2/2019
Dip tube and pump system to optimize perfusion process in Vertical-Wheel bioreactors.	US16/210,238	12/5/2018
Several designs for macrocarriers (larger than commercially available microcarriers) intended to improve cell attachment and growth efficiencies.	US16/863,819	4/30/2020
Several designs for macrocarriers (larger than commercially available microcarriers) intended to improve cell attachment and growth efficiencies.	PCT/US2020/030847	4/30/2020
Retention device external to bioreactor for rapid, complete, and scalable medium exchange. Will file non-provisional application in U.S. and as PCT.	US62/704,473	5/12/2020
Process for using multiple bioreactors and external retention device to facilitate rapid and complete medium exchange at large scale.	US16/517,902	7/22/2020
Process for using multiple bioreactors and external retention device to facilitate rapid and complete medium exchange at large scale.	JP2020-022873	2/13/2020
Utilize a defined range of hydrodynamic conditions in bioreactors to enable scalable expansion/differentiation of therapeutic cells.	US17/160,139	1/27/2021
Utilize a defined range of hydrodynamic conditions in bioreactors to enable scalable expansion/differentiation of therapeutic cells.	PCT/US2021/015256	1/27/2021
Rapid replenishment of dissolved oxygen for therapeutic cells at large scale. Would eventually file U.S. and PCT non-provisional applications.	DRAFT	DRAFT

EXHIBIT C

Trademarks

<u>Description</u>	<u>Serial/Registration/ App. No.</u>	<u>File Date</u>
"PBS BIOTECH"	3948858	1/19/2010
"VERTICAL-WHEEL"	90093073	8/4/2020
"PBS MINI"	90093077	8/4/2020
PBS Biotech logo	N/A	TBD
Vertical-Wheel logo	N/A	TBD
Vertical Wheel	88938522	5/28/2020
Vane	88938524	5/28/2020
Container	88938526	5/28/2020