

Instructions

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This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

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Royalties: Funds are coming in to you or your institution due to your patent



Section 1. Identifying Inform				
Identifying Inform	nation			
Given Name (First Name) Chris	2. Surname (Last Name) Brown			3. Date 24-December-2020
4. Are you the corresponding author?	Yes ✓ No	Correspondi Howard J S	•	
5. Manuscript Title A BMP/Activin A Chimera Induces Post	erolateral Spine Fusion in	Nonhuman Pr	imates a	at Lower Concentrations Than BMP-2
6. Manuscript Identifying Number (if you k JBJS-D-20-02036	now it)			
Section 2. The Work Under C	onsideration for Publ	ication		
any aspect of the submitted work (includin statistical analysis, etc.)? Are there any relevant conflicts of inter If yes, please fill out the appropriate inf Excess rows can be removed by pressin	rest? 🗸 Yes 🗌 No Formation below. If you ha			udy design, manuscript preparation, ity press the "ADD" button to add a row
Name of Institution/Company	Grant	on-Financial Support [?]	Other?	Comments
Genetics Institute, Wyeth LLC, Pfizer INC,			✓	former employee of all four, GI acquired by Wyeth, acquired by Pfizer
Bioventus LLC			✓	former employee of Bioventus
Section 3. Relevant financial	activities outside the	submitted w	vork.	
of compensation) with entities as describing the "Add +" box. You should re	ribed in the instructions. Uport relations we	Jse one line for	each ei	cial relationships (regardless of amount ntity; add as many lines as you need by e 36 months prior to publication.
Are there any relevant conflicts of inter				
If yes, please fill out the appropriate inf	formation below.			
Name of Entity	Grant	on-Financial Support?	Other?	Comments
Bioventus LLC			√	former employee of Bioventus



Section 4. Intellectual	Property	- Patents	s & Copyri	ghts		
Do you have any patents, wheth If yes, please fill out the apprope Excess rows can be removed by	riate informa	tion belov	w. If you ha	•		✓ Yes No s the "ADD" button to add a row.
Patent?	Pending?	Issued?	Licensed?	Royalties?	Licensee?	Comments
10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair		√				Assignee is Bioventus LLC
10,131,543 Method for producing porous calcium deficient hydroxyapatite granules		✓				Assignees are Bioventus LLC and Mathys AG
10,150,672 Porous calcium deficient hydroxyapatite granules		✓				Assignee is Bioventus LLC
10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair		√				Assignee is Bioventus LLC
10,807,869 Method for producing porous calcium deficient hydroxyapatite granules		✓				Assignees are Bioventus LLC and Mathys AG
20190388585 Porous Carrier Matrix	\checkmark					Assignee is Bioventus LLC
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Yes, the following relationsh	nips/conditio	ns/circum	nstances are	•		st
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patent



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Given Name (First Name) Chris	Surname (Last Name)Wilson	3. Date 28-December-2020	
			_
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- A4		Howard J Seeherman	_
Manuscript TitleA BMP/Activin A Chimera Induces Post	erolateral Spine Fusion in N	Nonhuman Primates at Lower Concentrations Than BMP-2	
6. Manuscript ldentifying Number (if you k			_
JBJS-D-20-02036	now it,		
		_	
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		n a third party (government, commercial, private foundation, etc.)	for
any aspect of the submitted work (including statistical analysis, etc.)?	g but not limited to grants, da	ata monitoring board, study design, manuscript preparation,	
Are there any relevant conflicts of inter	est? ✓ Yes No		
If yes, please fill out the appropriate inf Excess rows can be removed by pressin		ve more than one entity press the "ADD" button to add a ro	ow.
		n-Financial 7 Comments	
Name of Institution/Company	Grant	Other Comments	
Bioventus LLC		former employee of Bioventus	
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Relevant financial	activities outside the s	submitted work.	
		nether you have financial relationships (regardless of amour	
		se one line for each entity; add as many lines as you need b re present during the 36 months prior to publication.	у
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Fredericks 1



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4. Are you the cor	responding author?	☐ Yes ✓ No	Correspondin Howard J Se	g Author's Name eherman	
5. Manuscript Title A BMP/Activin A		erolateral Spine Fusion i	in Nonhuman Prir	mates at Lower Concentra	ations Than BMP-2
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Section 2.	The Work Under Co	onsideration for Pul	olication		
any aspect of the s statistical analysis, Are there any rel If yes, please fill o	ubmitted work (including etc.)? evant conflicts of intere	est? Yes No prmation below. If you I g the "X" button.	, data monitoring b o nave more than o	overnment, commercial, privoard, study design, manuscr ne entity press the "ADD"	ipt preparation,
Name of Institut	ion/Company	Grant? Personal Fees?	Non-Financial Support?	other? Comments	
Bioventus LLC				Paid consultant	
	ı				
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of compensation clicking the "Add Are there any rel) with entities as descri	bed in the instructions. port relationships that w	. Use one line for overe present dur	e financial relationships (re each entity; add as many l ing the 36 months prior	lines as you need by
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Do you have any	patents, whether plan	ned, pending or issued,	, broadly relevant	to the work? Yes	✓ No

Fredericks 2



Section 5. Polationships not severed above
Relationships not covered above
Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?
Yes, the following relationships/conditions/circumstances are present (explain below):
✓ No other relationships/conditions/circumstances that present a potential conflict of interest
At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements On occasion, journals may ask authors to disclose further information about reported relationships.
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Dr. Fredericks reports personal fees from Bioventus LLC, during the conduct of the study; .

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	Fees	Support?	Other	
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Other: Anything not covered under the previous three boxes

Pending: The patent has been filed but not issued

Issued: The patent has been issued by the agency

Licensed: The patent has been licensed to an entity, whether earning royalties or not

Royalties: Funds are coming in to you or your institution due to your patent



Section 1. Identifying Inform	nation			
Given Name (First Name) Howard	2. Surname (Last Nar Seeherman	me)		3. Date 27-December-2020
4. Are you the corresponding author?	✓ Yes No			
5. Manuscript Title A BMP/Activin A Chimera Induces Poste	erolateral Spine Fusio	n in Nonhuman F	Primates a	at Lower Concentrations Than BMP-2
6. Manuscript Identifying Number (if you kn JBJS-D-20-02036	now it)			
Section 2. The Work Under Co	onsideration for P	ublication		
any aspect of the submitted work (including statistical analysis, etc.)? Are there any relevant conflicts of intere If yes, please fill out the appropriate info Excess rows can be removed by pressing	est? ✓ Yes ormation below. If yo	No u have more thar		udy design, manuscript preparation, ity press the "ADD" button to add a row.
Name of Institution/Company	Grant? Personal Fees?	Non-Financial Support?	Other?	Comments
Pfizer, Inc				former employee of Pfizer
Bioventus LLC				former employee of Bioventus
Section 3. Relevant financial	activities outside	the submitted	work.	
Place a check in the appropriate boxes i of compensation) with entities as descri clicking the "Add +" box. You should rep	ibed in the instruction	ns. Use one line fo	or each er	ntity; add as many lines as you need by
Are there any relevant conflicts of intere		No		
If yes, please fill out the appropriate info	ormation below.			
Name of Entity	Grant? Personal Fees?	Non-Financial Support?	Other?	Comments
Bioventus LLC			✓	former employee of Bioventus and equity holder of Bioventus



Inproved delivery of osteoinductive solecules in bone repair Directly relevant Directly relevant	Patent?	Pending?	Issued?	Licensed?	Royalties?	Licensee?	Comments
orous calcium deficient ydroxyapatite granules 0,150,672 Porous calcium deficient ydroxyapatite granules 0,300,172 Matrix for enhanced elivery of osteoinductive molecules a bone repair 0,807,869 Method for producing orous calcium deficient ydroxyapatite granules 0,807,869 Method for producing orous calcium deficient ydroxyapatite granules 0,190388585 Porous Carrier Matrix	0,130,678 Systems and methods for nproved delivery of osteoinductive nolecules in bone repair		✓			_	Directly relevant
Assignee is Bioventus LLC Directly relevant Assignees are Bioventus LLC Assignees are Bioventus LLC Assignees are Bioventus LLC Directly relevant Assignees are Bioventus LLC Directly relevant Assignees are Bioventus LLC and Mathys AG Directly relevant Directly relevant Directly relevant Directly relevant Directly relevant	orous calcium deficient		√			Bioventus LLC	Directly relevant
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	orous calcium deficient		√			Bioventus LLC	Directly relevant
	0190388585 Porous Carrier Matrix	✓					Directly relevant
Section 5. Relationships not covered above	Section 5. Relationship		ered abo	ove			Directly relevant



Section 6.

Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

Dr. Seeherman reports personal fees from Pfizer, Inc, personal fees from Bioventus LLC, during the conduct of the study; personal fees and other from Bioventus LLC, outside the submitted work; In addition, Dr. Seeherman has a patent 10,130,678 Systems and methods for improved delivery of osteoinductive molecules in bone repair issued to Assignee is Bioventus LLC, a patent 10,131,543 Method for producing porous calcium deficient hydroxyapatite granules issued to Assignees are Bioventus LLC and Mathys AG, a patent 10,150,672 Porous calcium deficient hydroxyapatite granules issued to Assignee is Bioventus LLC, a patent 10,300,172 Matrix for enhanced delivery of osteoinductive molecules in bone repair issued to Assignee is Bioventus LLC, a patent 10,807,869 Method for producing porous calcium deficient hydroxyapatite granules issued to Assignees are Bioventus LLC and Mathys AG, and a patent 20190388585 Porous Carrier Matrix pending to Assignee is Bioventus LLC.

Evaluation and Feedback

Please visit http://www.icmje.org/cgi-bin/feedback to provide feedback on your experience with completing this form.



Instructions

The purpose of this form is to provide readers of your manuscript with information about your other interests that could influence how they receive and understand your work. The form is designed to be completed electronically and stored electronically. It contains programming that allows appropriate data display. Each author should submit a separate form and is responsible for the accuracy and completeness of the submitted information. The form is in six parts.

Identifying information.

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3. Relevant financial activities outside the submitted work.

This section asks about your financial relationships with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work. You should disclose interactions with ANY entity that could be considered broadly relevant to the work. For example, if your article is about testing an epidermal growth factor receptor (EGFR) antagonist in lung cancer, you should report all associations with entities pursuing diagnostic or therapeutic strategies in cancer in general, not just in the area of EGFR or lung cancer.

Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

Relationships not covered above.

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Section 1. Identifying Inform	mation		
1. Given Name (First Name) John	2. Surname (Last Nai Wozney	me)	3. Date 24-December-2020
4. Are you the corresponding author?	☐ Yes ✓ No	Corresponding Howard J See	g Author's Name Pherman
5. Manuscript Title A BMP/Activin A Chimera Induces Pos	terolateral Spine Fusio	on in Nonhuman Prim	nates at Lower Concentrations Than BMP-2
6. Manuscript Identifying Number (if you l JBJS-D-20-02036	know it)		
Section 2. The Work Under			
Did you or your institution at any time recany aspect of the submitted work (includir statistical analysis, etc.)? Are there any relevant conflicts of inte	ng but not limited to gran	s from a third party (gov nts, data monitoring bo	vernment, commercial, private foundation, etc.) for oard, study design, manuscript preparation, ne entity press the "ADD" button to add a row
Excess rows can be removed by pressi	ng the "X" button.		, ·
Name of Institution/Company	Grant? Personal Fees?	Non-Financial Ot Support?	ther? Comments
Bioventus LLC			Consulting fees.
Genetics Institute, Wyeth, Pfizer			Former employee. Genetics Institute was acquired by Wyeth which was acquired by Pfizer.
Section 3. Relevant financia	l activities outside	the submitted wo	rk.
of compensation) with entities as desc clicking the "Add +" box. You should re	ribed in the instructio eport relationships tha	ns. Use one line for e at were present duri	financial relationships (regardless of amount ach entity; add as many lines as you need by ng the 36 months prior to publication.
Are there any relevant conflicts of inte If yes, please fill out the appropriate in		No	
ii yes, picase iiii out tiic appropriate iii	Torridation below.		
Name of Entity	Grant? Personal Fees?	Non-Financial Of Support?	ther? Comments
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Inproved delivery of osteoinductive solecules in bone repair Directly relevant Directly relevant	Patent?	Pending?	Issued?	Licensed?	Royalties?	Licensee?	Comments
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	orous calcium deficient		√			Bioventus LLC	Directly relevant
	0190388585 Porous Carrier Matrix	✓					Directly relevant
Section 5. Relationships not covered above	Section 5. Relationship		ered abo	ove			Directly relevant



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ert testimony, employment, or other affiliations patent n-Financial Support: Examples include drugs/equipment

Morales 1



Section 1.	Identifying Inform	ation					
1. Given Name (First Name) Pablo			(Last Name)		3. Date 24-December-2020		
4. Are you the corresponding author?		Yes No		-	Corresponding Author's Name Howard J Seeherman		
5. Manuscript Title A BMP/Activin A Chimera Induces Posterolateral Spine Fusion in N				n Nonhuman P	onhuman Primates at Lower Concentrations Than BMP-2		
6. Manuscript Identifying Number (if you know it) JBJS-D-20-02036							
Section 2.	The Work Under C	onsideratio	on for Pub	dication			
Did you or your institution at any time receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)? Are there any relevant conflicts of interest? Yes No							
If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.							
Name of Institut	ion/Company	Grant	ersonal N Fees	lon-Financial Support?	Other?	Comments	
Bioventus LLC					✓	Employee of the Manheimer Foundation. Bioventus paid the Mannheimer Foundation for the purchase of animals and support of the on-site animal studies.	
Section 3.							
Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were present during the 36 months prior to publication . Are there any relevant conflicts of interest? Yes Vo							
Section 4.	Intellectual Proper	ty Paten	ts & Copy	rights			
Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes Vo							

Morales 2



Section 5. Polationships not sovered above				
Relationships not covered above				
Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?				
Yes, the following relationships/conditions/circumstances are present (explain below):				
✓ No other relationships/conditions/circumstances that present a potential conflict of interest				
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Section 6. Disclosure Statement				
Disclosure Statement				
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Dr. Morales reports other from Bioventus LLC, during the conduct of the study; .				

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Morales 3