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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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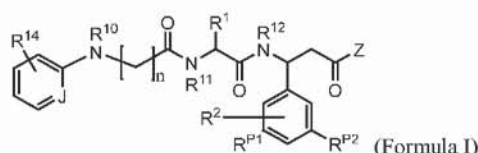
Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

— with international search report (Art. 21(3))
— with sequence listing part of description (Rule 5.2(a))

(54) Title: INTEGRIN LIGANDS AND USES THEREOF



(57) Abstract: Synthetic $\alpha\beta 6$ integrin ligands of Formula I having serum stability and affinity for integrin $\alpha\beta 6$, which is a receptor expressed in a variety of cell types, are described. The described ligands are useful for delivering cargo molecules, such as RNAi agents or other oligonucleotide-based compounds, to cells that express integrin $\alpha\beta 6$, and thereby facilitating the uptake of the cargo molecules into these cells. Compositions that include $\alpha\beta 6$ integrin ligands and methods of use are also described.

PCT

(PCT Rule 92*bis*.1 and
Administrative Instructions, Section 422)

To:

TEIGEN, Robert, Michael
Arrowhead Pharmaceuticals, Inc.
502 S. Rosa Road
Madison, WI 53719
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (<i>day/month/year</i>) 24 March 2020 (24.03.2020)	
Applicant's or agent's file reference 30661-WO1	IMPORTANT NOTIFICATION
International application No. PCT/US2018/058471	International filing date (<i>day/month/year</i>) 31 October 2018 (31.10.2018)

1. The following indications appeared on record concerning:			
☒ the applicant		☐ the inventor	
☐ the agent		☐ the common representative	
Name and Address ARROWHEAD PHARMACEUTICALS, INC. 225 South Lake Avenue, Suite 1050 Pasadena, CA 91101 United States of America		State of Nationality	State of Residence
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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:			
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☐ the address		☐ the nationality	
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Name and Address ARROWHEAD PHARMACEUTICALS, INC. 225 South Lake Avenue, Suite 1050 Pasadena, CA 91101 United States of America		State of Nationality	State of Residence
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3. Further observations, if necessary:			
4. A copy of this notification has been sent to:			
☒ the receiving Office		☐ the International Preliminary Examining Authority	
☐ the International Searching Authority		☒ the designated Offices concerned	
☐ the Authority(ies) specified for supplementary search		☐ the elected Offices concerned	
		☐ other:	

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From the INTERNATIONAL BUREAU

PCTNOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

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Arrowhead Pharmaceuticals, Inc.
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	E-mail address patents@arrowheadpharma.com ☒ Notifications by e-mail authorized	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
☒ the receiving Office	☐ the International Preliminary Examining Authority	
☐ the International Searching Authority	☒ the designated Offices concerned	
☐ the Authority(ies) specified for supplementary search	☐ the elected Offices concerned	
	☐ other:	

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Date of mailing (<i>day/month/year</i>) 03 April 2020 (03.04.2020)	
Applicant's or agent's file reference 30661-WO1	IMPORTANT NOTIFICATION
International application No. PCT/US2018/058471	International filing date (<i>day/month/year</i>) 31 October 2018 (31.10.2018)

1. The following indications appeared on record concerning: ☐ the applicant ☒ the inventor ☐ the agent ☐ the common representative		
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		E-mail address ☐ Notifications by e-mail authorized	

3. Further observations, if necessary:
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4. A copy of this notification has been sent to:		☐	the International Preliminary Examining Authority
☒	the receiving Office	☒	the designated Offices concerned
☐	the International Searching Authority	☐	the elected Offices concerned
☐	the Authority(ies) specified for supplementary search	☐	other:

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To:

TEIGEN, Robert, Michael
Arrowhead Pharmaceuticals, Inc.
502 S. Rosa Road
Madison, WI 53719
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year) 03 April 2020 (03.04.2020)	
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International application No. PCT/US2018/058471	International filing date (day/month/year) 31 October 2018 (31.10.2018)

1. The following indications appeared on record concerning:		
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	Facsimile No.	
	E-mail address ☐ Notifications by e-mail authorized	
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☐ the Authority(ies) specified for supplementary search	☐ the elected Offices concerned	
	☐ other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Aymont Philippe e-mail pct.team9@wipo.int Telephone No. +41 22 338 74 09
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