UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 6-K

Report of Foreign Private Issuer
Pursuant to Rule 13a-16 or 15d-16
under the Securities Exchange Act of 1934

April 2019

Commission file number: 001-36288

Akari Therapeutics, Plc
(Translation of registrant's name into English)

75/76 Wimpole Street
London W1G 9RT
United Kingdom
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulations S-T Rule 101(b)(1):_____

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulations S-T Rule 101(b)(7):_____

CONTENTS

Further to a Form 6-K of Akari Therapeutics Plc dated April 26, 2019, on April 28, 2019, a poster presentation was made at the Association for Research in Vision and Ophthalmology annual meeting in Vancouver titled “Targeting the leukotriene B4 pathway and/or complement C5 via dual-functional recombinant coversin (nomacopan) in Experimental Autoimmune Uveitis (EAU)”. A copy of the poster is attached hereto as Exhibit 99.1.

Exhibit No.

99.1 Poster titled “Targeting the leukotriene B4 pathway and/or complement C5 via dual-functional recombinant coversin (nomacopan) in Experimental Autoimmune Uveitis (EAU)”.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Akari Therapeutics, Plc
(Registrant)

By: /s/ Clive Richardson
Name: Clive Richardson
Interim Chief Executive Officer and Chief Operating Officer

Date: April 29, 2019

Targeting the leukotriene B4 pathway and/or complement C5 via dual-functional recombinant coversin (nomacopan) in Experimental Autoimmune Uveitis (EAU)

B0275

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Background

Non-infectious posterior uveitis, a major cause of blindness, has an unclear etiology, and many patients fail to respond to treatment.

Using the Experimental Autoimmune Uveitis (EAU) model of retinal inflammation, we are able to validate the efficacy of anti-inflammatory drugs, study the mechanism of drug action and learn more about ocular inflammatory diseases. As a result, it is a successful preclinical model for translational studies. Uveitis and its mouse model are multifactorial diseases caused by many contributing factors and inflammatory pathways. Simultaneously targeting different pathways involved in disease development therefore has significant therapeutic potential.

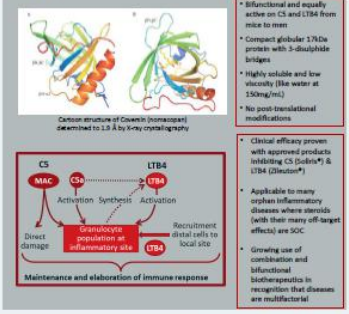
Preventing the cleavage of C5 and generation of the major pro-inflammatory factors C5a and C5b-9 has therapeutic potential to protect against tissue damage in organ-specific immune responses including EAU[2]. Whilst, targeting the leukotriene B4 (LTB4) receptor (BLT1) by applying a BLT1 antagonist in mouse uveitis has been shown to significantly downregulate disease[3]. The leukotrienes (LT) are also important multifunctional mediators of inflammation.
Coversin (nomacopan) is a bifunctional recombinant protein derived from blood-feeding ticks that specifically prevents complement (C)-mediated C5 activation and also sequesters leukotriene B4 (LTB4) within an internal binding pocket[4] (Figure 1).

In this study we have investigated the therapeutic effect of:

- Nomacopan – inhibits C5 and LTB4
- Variant nomacopan (Leukasin) - inhibits LTB4 only
- PAS-nomacopan - long-acting, inhibits C5 and LTB4
- Variant PAS-nomacopan (PAS-Leukasin) - long acting LTB4 only

Purpose
To explore the impact of nomacopan, Leukasin and their long-acting engineered forms, when administered intravitreally or topically during active EAU.

Figure 1



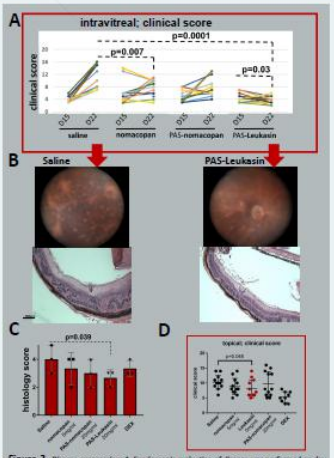


Figure 2. *Disease suppression;* A. Fundoscopic evaluation of disease was performed on day 15 (pre-treatment) and 22 (post treatment) for individual eyes (n=16). On day 15 and 18 EAU mice were treated intravitreally with 1-2 ul of indicated concentration of compounds. B. Representative fundus and corresponding histopathology images. C. Graphical summary showing histology score from IVT treated mice (n=3 in each group). D. Fundus examination for individual eyes (n=12) after 7 days of topical treatment on day 21 post immunization. Bars indicate SD or SEM (histology and fundus scores, respectively) and two tailed nonparametric t test has been applied.

Methods

EAU: As described[1].
Treatments: For intravitreal administration, mice were treated on days 15 and 18 post immunization by nomacopan, long acting nomacopan (PAS-nomacopan), long acting LTB4 binding only nomacopan (PAS-Leukasin), dexamethasone (Maxidex; DEX) or saline. For topical administration the mice were treated twice daily with 2-5 µl of nomacopan, PAS-nomacopan, LTB4 binding only nomacopan (Leukasin), DEX or saline for 7 days. Disease progression was graded clinically by retinal fundoscopy pre- and post- treatment and scored histologically.
Immunofluorescence microscopy: FFPE blocks were prepared and analysed as described before[1].
Tissue dissection: For retinal flow cytometry, retinal layers were collected, minced, filtered and re-suspended in media for *ex vivo* stimulation (PMA & Ionomycin, 4 hours) and stained for cell surface and intracellular markers[1].

Results

Intravitreal (IVT) administration of Nomacopan and long acting versions
We found that PAS-Leukasin mitigated disease progression post IVT administration as determined by clinical scoring (Figure 2A-C; mean score ±SEM; 3.81±1.01; n=16) relative to saline controls (12.36±1.01; n=16; *P*= 0.0001).
Decreases in Th17 (IL-17A$^+$CD4$^+$) cells in the nomacopan and PAS-nomacopan treated groups (mean % ±SEM; 14.67±3.53 and 7.02±3.01 respectively, n=8) were detected relative to saline controls (27.47±3.46; n=8; *P*=0.02 and 0.007).
A significant decrease in retinal double-positive Th1/Th17 (RORγt$^+$T-bet$^+$) cells (4.717±2.627; n=8) was also observed in PAS-nomacopan treated EAU mice as compared to saline controls (21.28±3.54; n=8; *P*=0.003). after two IVT treatments (day 15 and 18) (Figures 3, 4) while there was no significant difference in the expression levels of other T cell subsets (data not shown).

Topical administration of nomacopan and long-acting variants
We found that PAS-Leukasin mitigated disease progression post topical administration as determined by clinical scoring (Figure 2D; mean score±SEM; 8.08±0.85; n=12) relative to saline controls (10.33±0.67; n=12; *P*=0.048). However, we did not observe any significant changes in CD4$^+$T cell numbers or subtypes in treated mice.

Presence of LTB4 receptor (BLT1) and C5a receptor (C5aR) in infiltrating immune cells
Immunofluorescence staining of retinal tissue sections using MAbs recognising LTB4 receptors (BLT1; green) and C5a receptors (red) counterstained with DAPI (blue to indicate nuclei), showed that both receptors expressed in inflammatory cells. Some individual cells co-expressed both receptors, whilst many single receptor-expressing cells were also observed (Figure 5).

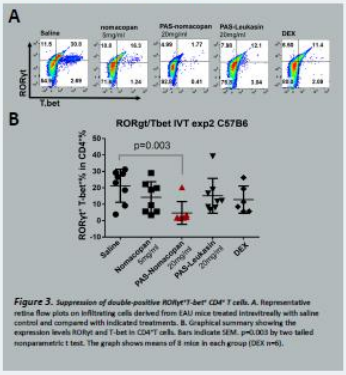


Figure 3. *Suppression of double-positive RORγt$^+$T-bet$^+$ CD4$^+$ T cells.* A. Representative retina flow plots on infiltrating cells derived from EAU mice treated intravitreally with saline control and compared with indicated treatments. B. Graphical summary showing the expression levels RORγt and T-bet in CD4$^+$T cells. Bars indicate SEM. p=0.003 by two tailed nonparametric t test. The graph shows means of 8 mice in each group (DEX n=6).

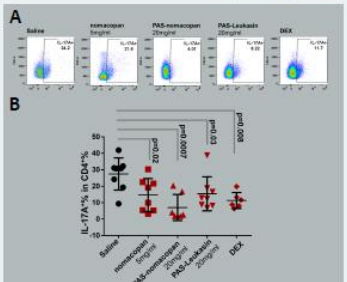


Figure 4. *Suppression of IL-17$^+$ CD4$^+$ T cells.* A. Representative retina flow plots on infiltrating cells derived from EAU mice treated intravitreally with saline control and compared with indicated treatments. B. Graphical summary showing the expression levels IL-17A in CD4$^+$T cells. Bars indicate SEM. *P*=0.007 and *P*=0.02 by two tailed nonparametric t test. The graph shows means of 8 mice in each group (DEX n=6).

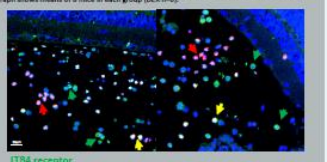


Figure 5. *Immunofluorescent staining for LTB4 receptor (BLT1, Green), C5aR (Red) on EAU sections.* Infiltrating cells captured in vitreous show cells expressing only BLT1 (Green) or C5aR (Red) while there are cells expressing both receptors (yellow). Cells indicated by arrows.

Conclusion

These data suggest that both LTB4 and the terminal complement pathways may be important in the aetiology of EAU, and raise the possibility of clinical intervention with a dual functional molecule. Administered IVT both of the long-acting versions (PAS-nomacopan and PAS-Leukasin) appeared to more effectively decrease T effector cells than unmodified nomacopan. The suggestion that Leukasin showed activity after topical administration raises the possibility that combination therapy by intravitreal injection and topical drops may be a therapeutic option.

Reference

1. M Eskandarpour et al. (2017) Pharmacological Inhibition of Granulocyte-Protein Suppresses Retinal Inflammatory Disease and Downregulates Retinal Th17 Cells. *J Immunol.* 198(3):1063-1100 2. DA Copland, et al. (2006) Systemic and local anti-C5 therapy reduces the disease severity in experimental autoimmune uveoretinitis. *Clin Exp Immunol* 156: 263–274 3. L Zheng, et al. (2018) Complement anaphylatoxin receptors C3aR and C5aR are required in the pathogenesis of experimental autoimmune uveitis. *J. Leukoc. Biol.* 99: 447–454 4. T Lieu et al. (2009) Blockade of the Interaction of Leukotriene B4 with Its Receptor Prevents Development of Autoimmune Uveitis. *Invest Ophthalmol Vis Sci.* 47:1543–1549 5. P Rovere,et al. (2010) Bifunctional Lipocalin Ameliorates Murine Immune Complex-Induced Acute Lung Injury. *J Biol Chem* 26; 285: 19799–19802

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