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CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

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(54) Title: METHODS FOR TREATING DERMATOMYOSITIS WITH BREPOCITINIB

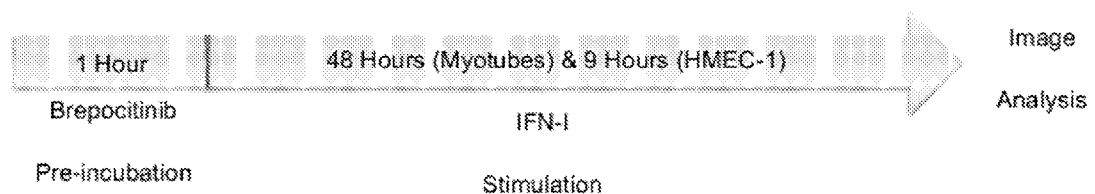


FIG. 1

(57) Abstract: The present disclosure provides methods related to treatment of a chronic immune-mediated disease of the skin and muscles. In particular, the present disclosure provides methods for the oral administration of a JAK inhibitor, or a pharmaceutically acceptable salt thereof for the treatment of dermatomyositis.



**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US 24/30335

**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 3-14  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 24/30335

## A. CLASSIFICATION OF SUBJECT MATTER

IPC - INV. A61K 31/395, A61K 31/415, A61K 31/166, A61K 31/505 (2024.01)  
ADD. A61K 31/33 (2024.01)

CPC - INV. A61K 31/395, A61K 31/415, A61K 31/166, A61K 31/505

ADD. A61K 31/33

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History document

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                         | Relevant to claim No. |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | ✓ VENCovsky et al. "POS0607 BREPOCITINIB PREVENTS TYPE-I INTERFERON INDUCED DAMAGE IN CULTURED MYOCYTES AND ENDOTHELIAL CELLS INDICATING A POTENTIAL ROLE IN THE TREATMENT OF DERMATOMYOSITIS", Annals of the Rheumatic Diseases. May 30 2023; 82: pp 575-576, especially: pg 575, col 2, para 3 to pg 576, col 1, para 1. | 1-2                   |
| A         | ✓ PAIK et al. "Use of JAK Inhibitors in Dermatomyositis: A Systematic Literature Review", Clin Exp Rheumatol. 2023 March; 41(2): pp 348-358, entire document.                                                                                                                                                              | 1-2                   |
| A         | ✓ MENET "A Dual Inhibition, a Better Solution: Development of a JAK1/TYK2 inhibitor", J. Med. Chem. 2018, 61, pp 8594-8596, entire document.                                                                                                                                                                               | 1-2                   |



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

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"D" document cited by the applicant in the international application

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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