This disclosure concerns antimicrobial compositions and methods for immunoenhancement, for example methods of increasing production of a type I interferon (IFN) in response to pathogen infection, by administration of a TAM receptor inhibitor. In certain embodiments, the disclosure concerns methods of using a TAM receptor inhibitor to treat a viral or bacterial infection in a subject.
INTERNATIONAL SEARCH REPORT

International application No
PCT/US 08/82902

A CLASSIFICATION OF SUBJECT MATTER
IPC(8) - C12P 21/04 (2009 01)
USPC - 435/69.51

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)
USPC:435/69.51

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC:435/335, 530/351 (see search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST(PGPB,USPT,USOC,EPAB,JPAB), Google Patents, Google Scholar
macrophage, antibacterial, antiviral, immunity, infection, interferon, inhibitor, tyros3, mer, axl, TAM receptor, type 1 interferon response,
induction, Lernke

C DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
</tr>
</thead>
</table>

Date of the actual completion of the international search
22 April 2009 (22 04 2009)

Date of mailing of the international search report
4 MAY 2009

Name and mailing address of the ISA/US
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Lee W Young

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Form PCT/ISA/2 10 (second sheet) (April 2007)
## 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** 4-18, 21 and 27-30 (note both claims numbered 30 are unsearchable)
   - because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a)

## 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.