Abstract: Various azetidinone derivatives are described, as are pharmaceutical compositions containing these compounds and methods of treatment of diseases using these compounds. Other embodiments are also described.
**INTERNATIONAL SEARCH REPORT**

<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>
<tbody>
<tr>
<td>A</td>
<td>EP 0 524 595 A1 (SCHERING CORPORATION) 27 January 1993 (27.01.1993), see entire document.</td>
<td>1-14, 24-33</td>
</tr>
<tr>
<td>A</td>
<td>WO 2005/021497 A2 (MARTINEZ et al) 10 March 2005 (10.03.2005), see entire document.</td>
<td>1-14, 24-33</td>
</tr>
</tbody>
</table>

- Further documents are listed in the continuation of Box C.
- See patent family annex.

Date of the actual completion of the international search: 22 September 2006 (22.09.2006)

Name and mailing address of the ISA/US:
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Authorized officer: Mark L. Berch
Telephone No. (371) 272-1600

Date of mailing of the international search report: 09 Nov 2006
**INTERNATIONAL SEARCH REPORT**

**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.:** 34-47, 58-64, 73, 74 and 78-119
   - 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:

*Please See Continuation Sheet*

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 any 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.: 1-12(part), 13-14, 24-33(part)**

**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.

Form PCT/ISA/210 (continuation of first sheet(2)) (April 2005)
BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-12(part), 13-14 and 24-33(part), drawn to Unfused azetidinone, without sugar or peptide.

Group II, claim(s) 1-12(part), 15-18(part), 19-23, 24-33(part), 48-53, 54-57, 65-72, drawn to Unfused azetidinone with sugar or gluconamide.

Group III, claim(s) 1-12(part), 15-18(part), 24-33(part), drawn to unfused azetidinones with peptide.

Group IV, claim(s) 75-77(part), drawn to Fused azetidinones without sugar or peptides.

Group V, claim(s) 75-77(part), drawn to Fused azetidinones with sugar or gluconamide.

Group VI, claim(s) 75-77(part), drawn to Fused azetidinones with peptide.

The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The fusion seen on the azetidinones of Groups IV-VI provides a distinctive structural feature. In addition, the sugar and peptide units will have a distinct biological role of their own, not seen in compounds without such units.