Psoriasis Treatments
Patent Landscape
Statistical review of new patent applications published in 2012-2013
August 2013
# Table of Contents

## Table of Contents
- Terminologies for Patent Analysis  
- Objectives and Methodology  
- Executive Summary  
- Companies Mentioned in This Report

## Patent Landscape Overview
- Geographic Breakdown of Patent Filings
- Main Patent Applicants
- Main Inventors
- Main Academic Patent Applicants
- Legal Status of Patent Filings
- Countries of Filings for Main Patent Applicants
- Patent Applicant IP Network
- Main IPC Sub-Classes
- Main IPC Classes
- Backward Citations Map
- Main Routes of Administration Claimed
- Main Other Diseases Claimed
- Main Mechanisms of Action Claimed
- Technology Breakdown of Patent Filings

## New Chemical Entity
- Geographic Breakdown of Patent Filings
- Main Patent Applicants
- Main Inventors
- Countries of Filings for Main Patent Applicants
- Patent Applicant IP Network
- Main IPC Sub-Classes
- Main IPC Classes
- Backward Citations Map
- Main Routes of Administration Claimed
- Main Other Diseases Claimed
- Main Mechanisms of Action Claimed

## Biologic
- Geographic Breakdown of Patent Filings
- Main Patent Applicants
- Main Inventors

## Formulation
- Geographic Breakdown of Patent Filings
- Main Patent Applicants
- Main Inventors
- Countries of Filings for Main Patent Applicants
- Patent Applicant IP Network
- Main IPC Sub-Classes
- Main IPC Classes
- Backward Citations Map
- Main Routes of Administration Claimed
- Main Other Diseases Claimed
- Main Mechanisms of Action Claimed

## Methods of Use
- Geographic Breakdown of Patent Filings
- Main Patent Applicants
- Main Inventors
- Countries of Filings for Main Patent Applicants
- Patent Applicant IP Network
- Main IPC Sub-Classes
- Main IPC Classes
- Backward Citations Map
- Main Routes of Administration Claimed
- Main Other Diseases Claimed
- Main Mechanisms of Action Claimed

## Contact

Copyright © KnowMade SARL. All rights reserved.

Psoriasis Treatments- Patent Landscape – August 2013
Objectives and Methodology

Objectives
This IP report is focused on psoriasis treatments. It provides a statistical analysis of new patent applications published from August 2012 to August 2013.

This IP report includes:
• A patent landscape overview with technological segmentation
• An Excel database of all the analysed patents

Methodology
• The data was extracted from the FamPat database (Questel-ORBIT) which provides 60+ million patent documents from 95 offices.
• Search strategy: (psoria+ OR antipsoria+)/Title OR Abstract OR Claims.
• 1038 relevant patent families have been selected. The selection of patents has been done both automatically and manually.
• The statistical analysis was performed with INTELLIXIR System.
• The patents were categorized using keyword analysis of patent title, abstract and claims, in conjunction with expert review of the subject-matter of inventions:
  • Natural product and traditional medicine
  • Formulation
  • New Chemical Entity
  • Device
  • Use
  • Biologic
  • Process
  • Diagnostic

Searches for patents were conducted early August 2013 hence patents published/granted after this date will not be available in this deliverable. The patents were grouped according FamPat’s family rules (variation of EPO strict family): A Patent Family comprises patents linked by exactly same priority numbers (strict family), plus comparison of priority and application numbers, specific rules by country and information gathered from other sources (national files, legal status ...).

Disclaimer: Knowmade is a research firm that provides technical analysis and technical opinions. Knowmade is not a law firm. The research, technical analysis and/or work proposed or provided by Knowmade and contained herein is not a legal opinion and should not be construed as such.
Objectives and Methodology

Phase I
- Keywords and term-set definition
- Search equations / Search strategy

Phase II
- Patent screening
  - Fine search using IPC classes and citations analysis
  - Patent classification
    - Related
    - Relevant
    - Non relevant

Technological Segmentation

Phase III
- Patent Investigation
  - Statistical analysis
  - Expert review
  - segmentation improvement during IP Investigation

Psoriasis Treatments - Patent Landscape – August 2013
Psoriasis is an inflammatory skin disease of unknown cause which is usually chronic, frequently recurrent and acute in nature. This skin disease produces lesions that occur predominantly at certain sites, such as elbows, knees and scalp, although other areas of the body may be also inflamed. More than 7 million Americans have been diagnosed with psoriasis and/or psoriatic arthritis, a degenerative disease of the joints and connective tissues associated with psoriasis. Psoriasis typically first strikes people between the ages of 15 and 35, but can affect anyone at any age, including children. There are a number of different treatment options for psoriasis. Typically topical agents are used for mild disease, phototherapy for moderate disease, and systemic agents for severe disease. There is yet no cure for psoriasis.

The field of psoriasis treatments has shown an intensive patenting activity since early 2000s. Today, there are more than 22,000 patent families filed all over the world. More than 1030 new patent families were published between August 2012 and August 2013. They were filed by over 500 patent applicants mainly located in USA, China, Europe and Korea. The main patent applicants are MERCK, ALLERGAN, ABBOTT, ALMIRALL and ROCHE. About 90% of assignees have less than 3 published patents. More than 3000 patent inventors are involved in psoriasis treatments, and about 2400 of them have filed only 1 new patent. The academic organisms account for almost 21% of new patent filings and they are mainly located in US, China and Korea. About 67% of patents claimed anti-inflammatory activity, and main treatments claimed contain corticosteroids (mainly prednisone and dexamethasone) or interleukin inhibitors (mainly IL-6, IL-17 and IL-1). A lot of other autoimmune diseases are also claimed, such as rheumatoid arthritis, lupus erythematosus or Crohn's disease. The data set was segmented by type (New Chemical Entity (NCE), Biologic, Method of use (USE), Formulation, Natural products and traditional medicine, Device, Diagnostic, and Process). Over 37% of new patent families published from August 2012 to August 2013 are related to NCE. Main treatments claimed in these patents are JAK inhibitors (mainly JAK3 inhibitors). The leading applicants are MERCK, ALMIRALL and ROCHE, and the patent filings remain dominated by US companies. The patents claiming an invention related to Biologic, Use and Formulation represent 16%, 15% and 15% of new filings respectively. The patents dedicated to Biologic were mainly filed by ABBVIE, CATHOLIC UNIVERSITY OF KOREA and NOVO NORDISK. Antibodies are the main type of biologic agents claimed. The main immunotherapeutic targets claimed are TNF, CD3, CD4, IL-6 and IL-17. The patents dedicated to Use were mainly filed by ALLERGAN, UNIVERSITY OF NAMIBIA and BETH ISRAEL HOSPITAL. The patents dedicated to Formulation were mainly filed by ANTERIOS, CATHOLIC UNIVERSITY OF KOREA and ALLERGAN.
Order Form

SHIP TO
Name (Mr/Ms/Dr/Pr):
______________________________________

Job Title:
______________________________________

Company:
______________________________________

Address:
______________________________________

City:
______________________________________

State:
______________________________________

Postcode/Zip:
______________________________________

Country:
______________________________________

VAT ID Number for EU members:
______________________________________

Tel:
______________________________________

Email:
______________________________________

Date:
______________________________________

PAYMENT METHODS
Check
To pay your invoice using a check, please mail your check to the following address:
KnowMade S.A.R.L.
2405 route des Dolines, BP 65
06902 Valbonne Sophia Antipolis
FRANCE

Money Transfer
To pay your invoice using a bank money wire transfer please contact your bank to complete this process.
Here is the information that you will need to submit the payment:
Payee: KnowMade S.A.R.L.
Bank: Banque populaire St Laurent du Var CAP 3000 - Quartier du lac- 06700 St Laurent du Var
IBAN: FR76 1560 7000 6360 6214 5695 126
BIC/SWIFT: CCBPRPNC

Paypal
In order to pay your invoice via PAYPAL, you must first register at www.paypal.com. Then you can send money to the KnowMade S.A.R.L. by entering our E-mail address contact@knowmade.fr as the recipient and entering the invoice amount.

RETURN ORDER BY
E-mail: contact@knowmade.fr
Mail: KnowMade S.A.R.L. 2405 route des Dolines, BP 65 06902 Sophia Antipolis FRANCE

PRODUCT ORDER
☐ Single user licence EURO 1290
☐ Corporate licence EURO 1990
For price in dollars, please use the day’s exchange rate. For French customer, add 19.6 % for VAT.
All reports are delivered electronically in pdf format
Signature:
I hereby accept Knowmade’s Terms and Conditions of Sale
Terms and Conditions of Sales

Definitions

"Acceptance": Action by which the Buyer accepts the terms and conditions of sale in their entirety. It is done by signing the purchase order which mentions “I hereby accept Knowmade’s Terms and Conditions of Sale”.

"Buyer": Any business user (i.e. any person acting in the course of its business activities, for its business needs) entering into the following general conditions to the exclusion of consumers acting in their personal interests.

"Contracting Parties" or “Parties”: The Seller on the one hand and the Buyer on the other hand.

"Intellectual Property Rights“ ("IPR") means any rights held by the Seller in its Products, including any patents, trademarks, registered models, designs, copyrights, inventions, commercial secrets and know-how, technical information, company or trading names and any other intellectual property rights or similar in any part of the world, notwithstanding the fact that they have been registered or not and including any pending registration of one of the above mentioned rights.

“License”: For the reports and databases, 2 different licenses are proposed. The buyer has to choose one license:
1. Single user license: a single individual at the company can use the report.
2. Corporate license: the report can be used by unlimited users within the company. Subsidiaries are not included.

“Products”: Reports are established in PowerPoint and delivered on a PDF format and the database may include Excel files.

“Seller”: Based in Sophia Antipolis (France headquarters), Knowmade is a technology intelligence company specialized in the research and analysis of scientific and technical information. We provide patent landscapes and scientific state of the art with high added value to businesses and research laboratories. Our intelligence digests play a key role to define your innovation and development strategy.

1. Scope

1.1 The Contracting Parties undertake to observe the following general conditions when agreed by the Buyer and the Seller. ANY ADDITIONAL, DIFFERENT, OR CONFLICTING TERMS AND CONDITIONS IN ANY OTHER DOCUMENTS ISSUED BY THE BUYER AT ANY TIME ARE HEREBY OBJECTED TO BY THE SELLER, SHALL BE WHOLLY INAPPLICABLE TO ANY SALE MADE HEREUNDER AND SHALL NOT BE BINDING IN ANY WAY ON THE SELLER.

1.2 This agreement becomes valid and enforceable between the Contracting Parties after clear and non-equivocal consent by any duly authorized person representing the Buyer. For these purposes, the Buyer accepts these conditions of sales when signing the purchase order which mentions “I hereby accept Knowmade’s Terms and Conditions of Sale”. This results in acceptance by the Buyer.

1.3 Orders are deemed to be accepted only upon written acceptance and confirmation by the Seller, within [7 days] from the date of order, to be sent either by email or to the Buyer’s address. In the absence of any confirmation in writing, orders shall be deemed to have been accepted.

2. Mailing of the Products

2.1 Products are sent by email to the Buyer:
- within [1] month from the order for Products already released; or
- within a reasonable time for Products ordered prior to their effective release. In this case, the Seller shall use its best endeavours to inform the Buyer of an indicative release date and the evolution of the work in progress.

2.2 Some weeks prior to the release date the Seller can propose a pre-release discount to the Buyer.

The Seller shall by no means be responsible for any delay in respect of article 2.2 above, and including incases where a new event or access to new contradictory information would require for the analyst extra time to compute or compare the data in order to enable the Seller to deliver a high quality Products.

2.3 The mailing of the Product will occur only upon payment by the Buyer, in accordance with the conditions contained in article 3.

2.4 The mailing is operated through electronic means either by email via the sales department. If the Product’s electronic delivery format is defective, the Seller undertakes to replace it at no charge to the Buyer provided that it is informed of the defective formatting within 90 days from the date of the original download or receipt of the Product.

2.5 The person receiving the Products on behalf of the Buyer shall immediately verify the quality of the Products and their conformity to the order. Any claim for apparent defects or for non-conformity shall be sent in writing to the Seller within 8 days of receipt of the Products. For this purpose, the Buyer agrees to produce sufficient evidence of such defects.

2.6 No return of Products shall be accepted without prior information to the Seller, even in case of delayed delivery. Any Product returned to the Seller without providing prior information to the Seller as required under article 2.5 shall remain at the Buyer’s risk.
Terms and Conditions of Sales

3. Price, invoicing and payment
3.1 Prices are given in the orders corresponding to each Product sold on a unit basis or corresponding to annual subscriptions. They are expressed to be inclusive of all taxes. The prices may be reevaluated from time to time. The effective price is deemed to be the one applicable at the time of the order.
3.2 Payments due by the Buyer shall be sent by cheque payable to Knowmade, PayPal or by electronic transfer to the following account:
Banque populaire St Laurent du Var CAP 3000 - Quartier du lac- 06700 St Laurent du Var
BIC or SWIFT code: CCBFRFPNCE
IBAN: FR76 1560 7000 6360 6214 5695 126
To ensure the payments, the Seller reserves the right to request down payments from the Buyer. In this case, the need of down payments will be mentioned on the order.
3.3 Payment is due by the Buyer to the Seller within 30 days from invoice date, except in the case of a particular written agreement. If the Buyer fails to pay within this time and fails to contact the Seller, the latter shall be entitled to invoice interest in arrears based on the annual rate Refi of the «BCE» + 7 points, in accordance with article L. 441-6 of the French Commercial Code. Our publications (report, database, too...) are delivered only after receipt of the payment.
3.4 In the event of termination of the contract, or of misconduct, during the contract, the Seller will have the right to invoice at the stage in progress, and to take legal action for damages.

4. Liabilities
4.1 The Buyer or any other individual or legal person acting on its behalf, being a business user buying the Products for its business activities, shall be solely responsible for choosing the Products and for the use and interpretations he makes of the documents it purchases, of the results he obtains, and of the advice and acts it deduces thereof.
4.2 The Seller shall only be liable for (i) direct and (ii) foreseeable pecuniary loss, caused by the Products or arising from a material breach of this agreement
4.3 In no event shall the Seller be liable for:
a) damages of any kind, including without limitation, incidental or consequential damages (including, but not limited to, damages for loss of profits, business interruption and loss of programs or information) arising out of the use of or inability to use the Seller’s website or the Products, or any information provided on the website, or in the Products;
b) any claim attributable to errors, omissions or other inaccuracies in the Product or interpretations thereof.
4.4 All the information contained in the Products has been obtained from sources believed to be reliable. The Seller does not warrant the accuracy, completeness adequacy or reliability of such information, which cannot be guaranteed to be free from errors.
4.5 All the Products that the Seller sells may, upon prior notice to the Buyer from time to time be modified by or substituted with similar Products meeting the needs of the Buyer. This modification shall not lead to the liability of the Seller, provided that the Seller ensures the substituted Product is similar to the Product initially ordered.
4.6 In the case where, after inspection, it is acknowledged that the Products contain defects, the Seller undertakes to replace the defective products as far as the supplies allow and without indemnities or compensation of any kind for labor costs, delays, loss caused or any other reason. The replacement is guaranteed for a maximum of two months starting from the delivery date. Any replacement is excluded for any event as set out in article 5 below.
4.7 The deadlines that the Seller is asked to state for the mailing of the Products are given for information only and are not guaranteed. If such deadlines are not met, it shall not lead to any damages or cancellation of the orders, except for non-acceptable delays exceeding [4] months from the stated deadline, without information from the Seller. In such case only, the Buyer shall be entitled to ask for a reimbursement of its first down payment to the exclusion of any further damages.
4.8 The Seller does not make any warranties, express or implied, including, without limitation, those of saleability and fitness for a particular purpose, with respect to the Products. Although the Seller shall take reasonable steps to screen Products for infection of viruses, worms, Trojan horses or other codes containing contaminating or destructive properties before making the Products available, the Seller cannot guarantee that any Product will be free from infection.

5. Force majeure
The Seller shall not be liable for any delay in performance directly or indirectly caused by or resulting from acts of nature, fire, flood, accident, riot, war, government intervention, embargoes, strikes, labor difficulties, equipment failure, late deliveries by suppliers or other difficulties which are beyond the control, and not the fault of the Seller.
6. Protection of the Seller’s IPR
6.1 All the IPR attached to the Products are and remain the property of the Seller and are protected under French and international copyright law and conventions.
6.2 The Buyer agreed not to disclose, copy, reproduce, redistribute, resell or publish the Product, or any part of it to any other party other than employees of its company. The Buyer shall have the right to use the Products solely for its own internal information purposes. In particular, the Buyer shall therefore not use the Product for purposes such as:
- Information storage and retrieval systems;
- Recordings and re-transmittals over any network (including any local area network);
- use in any timesharing, service bureau, bulletin board or similar arrangement or public display;
- Posting any Product to any other online service (including bulletin boards or the Internet);
- Licensing, leasing, selling, offering for sale or assigning the Product.
6.3 The Buyer shall be solely responsible towards the Seller of all infringements of this obligation, whether this infringement comes from its employees or any person to whom the Buyer has sent the Products and shall personally take care of any related proceedings, and the Buyer shall bear related financial consequences in their entirety.
6.4 The Buyer shall define within its company point of contact for the needs of the contract. This person will be the recipient of each new report in PDF format. This person shall also be responsible for respect of the copyrights and will guaranty that the Products are not disseminated out of the company.

7. Termination
7.1 If the Buyer cancels the order in whole or in part or postpones the date of mailing, the Buyer shall indemnify the Seller for the entire costs that have been incurred as at the date of notification by the Buyer of such delay or cancellation. This may also apply for any other direct or indirect consequential loss that may be borne by the Seller, following this decision.
7.2 In the event of breach by one Party under these conditions or the order, the non-breaching Party may send a notification to the other by recorded delivery letter upon which, after a period of thirty (30) days without solving the problem, the non-breaching Party shall be entitled to terminate all the pending orders, without being liable for any compensation.

8. Miscellaneous
All the provisions of these Terms and Conditions are for the benefit of the Seller itself, but also for its licensors, employees and agents. Each of them is entitled to assert and enforce those provisions against the Buyer.
Any notices under these Terms and Conditions shall be given in writing. They shall be effective upon receipt by the other Party.
The Seller may, from time to time, update these Terms and Conditions and the Buyer, is deemed to have accepted the latest version of these terms and conditions, provided they have been communicated to him in due time.

9. Governing law and jurisdiction
9.1 Any dispute arising out or linked to these Terms and Conditions or to any contract (orders) entered into in application of these Terms and Conditions shall be settled by the French Commercial Courts of Grasse, which shall have exclusive jurisdiction upon such issues.
9.2 French law shall govern the relation between the Buyer and the Seller, in accordance with these Terms and Conditions.
KnowMade SARL
2405 route des Dolines BP65
06902 Sophia Antipolis
France

www.knowmade.com
contact@knowmade.fr