

# Research Chemical Substances and Pharmacology

*How can I research chemical or drug compounds on Derwent Innovation? What types of research can I do? Can I find drugs that are expiring soon? Can I find new uses for our existing patents?*

Derwent Innovation provides essential tools to research patents for chemical substances and pharmacology. Smart Search makes it easy to locate all possible names for chemical formulas, which you can use to craft carefully targeted searches to find records for specific substances, their use, manufacturing processes, or related processes.

Once you have your results, the Results Dashboard provides immediate answers to dead or alive and remaining life questions, while powerful analysis tools make it easy to explore potential uses and identify new markets. You can use these same tools on results from chemical structure searches exported from dedicated chemistry research tools.

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*Note: The instructions in this guide are meant to guide all patent researchers, regardless of experience. Where appropriate, we also provide notes for expert researchers that may provide additional refinements, such as using advanced Boolean operators in the search.*

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## Locate patents about a chemical substance

Run a Smart Search for the name you know

Smart Search makes it easy to start with simple words or phrases and find patents relevant to a technology. Those relevant patents can help you identify key terms to use in a more focused search.

1. From the Derwent Innovation Dashboard, enter a name you know for the substance to research
2. Click the  icon to find patents related to the compound you entered

Note that you do not need to enter operators, additional synonyms, or variant spellings. Smart Search automatically expands the terms to find all relevant patents.

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### *Why not just use Smart Search?*

*Smart Search provides comprehensive results relevant to your search terms. This may include results that are related to your search terms, but not for the exact compound you want to research.*

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## Review your results for potential synonyms

Smart Search finds patents related to the key terms you entered, even if those terms are not on the patents. Review the patents found by your Smart Search and note other key terms to use in a more focused technology search:

- Review the DWPI Title and Abstract sections for editorially enhanced summaries of the patent that may include alternate names for the compound
- Review the Claims and Description for specifics about the patent, including references to your compound
- Use the Highlighting tab to quickly jump to instances of your key terms in the patent; the surrounding text may also contain synonyms for your compound

## Focus your research on specific patents about the substance

1. Click the **Derwent Innovation** logo to go back to the Dashboard, then click **Patents**
2. Select **Title-DWPI** and **Abstract-Novely DWPI**
3. Enter the key terms and any synonyms for the substance you want to research
4. Click the plus signs to duplicate each field
5. Add key terms for patents you want to find

**Tip:** Make sure to use the correct operators between fields: **AND** between the same fields, **OR** between different fields. Add parentheses in the Preview/edit query box to group the correct fields together.

**Tip:** Use the **NOT** operator to remove false positives for patent types you do not want. For example, if you want patents for production, use **NOT** to avoid patents with key terms for users, detection, or removal.

**Tip:** Patent search experts may want to enter the substance names and patent type key terms in the same search box and use proximity operators to focus the search. **Example:** Use the **NEARn** operator to find means of production within a certain number of words as your substance:  
(pyrogallol or pyrogallol ADJ acid) **NEAR5** (produc\* or prepar\* or manufactur\* or synthes\*)

## Potential key terms for specific patent types

Means of production	Specific uses	Detection	Purification/removal
<ul style="list-style-type: none"> <li>• produc*</li> <li>• prepar*</li> <li>• manufactur*</li> <li>• synthes*</li> </ul>	<ul style="list-style-type: none"> <li>• therap*</li> <li>• treat*</li> <li>• prophy*</li> <li>• use OR using OR uses</li> </ul>	<ul style="list-style-type: none"> <li>• detect*</li> <li>• analy*</li> <li>• measure*</li> <li>• determin*</li> </ul>	<ul style="list-style-type: none"> <li>• purif*</li> <li>• separat*</li> <li>• remov*</li> <li>• reduc*</li> <li>• refin*</li> <li>• eliminat*</li> </ul>

## Locate patents about a drug

### Identify trade names for the drug

**PATENT SEARCH** PUBLICATION NUMBER

Feedback Help

FIELDDED EXPERT Change collections: DWPI, EP App., EP Grant, US App., US Gran...

Smart Search-Topic ? atorvastatin NOT

Text Fields ? atorvastatin

Templates

Make these my defaults

Clear All Fields Reset Search

**Preview/edit query**

SSTO=(Keywords to be extracted) NOT ALL=(atorvastatin)

1. From the Fielded search form, use Smart Search to search for the approved name for the drug
2. Select **Text Fields** and enter the approved drug name
3. Use the **NOT** operator between the fields
4. Click **Search**
5. Review the results for potential trade names
6. Create a comprehensive search for specific patent types (e.g., therapies or treatment)

**Note:** The same methods described in Review your results for potential synonyms and Focus your research on specific patents about the substance above apply to steps 4 and 5.

### Locate the product patent (original filing) for a drug

**PATENT SEARCH** PUBLICATION NUMBER

Feedback Help

FIELDDED EXPERT Change collections: all

Fielded search operators: AND | OR | NOT

ADD | NEAR | SAME | ( | ) | \* | ?

INPADOC Legal Status ? (\*1SPC or CCP or supplementary protection certificate) SAME atorvastatin

Include blank fields

Templates

Make these my defaults

Clear All Fields Reset Search


**Preview/edit query**

LS=(\*1SPC or CCP or supplementary ADJ protection ADJ certificate) SAME atorvastatin

**SEARCH RESULTS**

10 record(s) found out of 108,044,544 searched (display limit 1,000,000) 0 record(s) selected

Displaying 1 - 10 of 10 Display 10 records per page

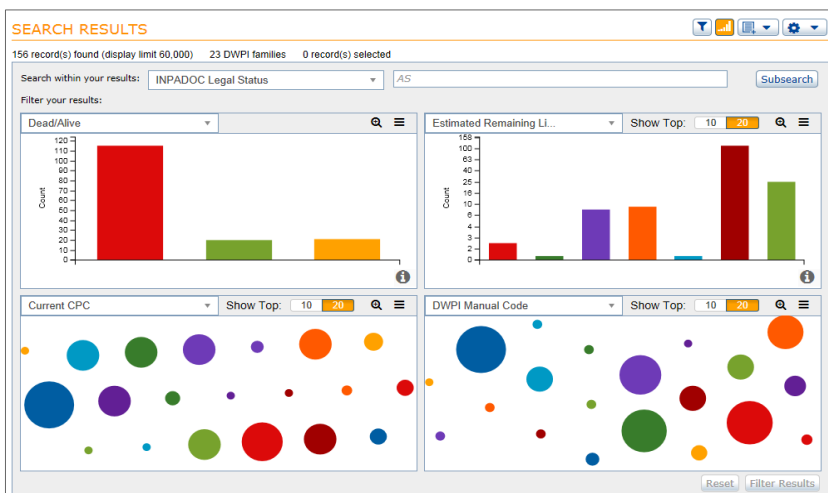
Item	Publication Number	Assignee/Applicant	Publication Date	Current IPC
1	EP2720599B1 <b>DWPI Drawing:</b> 	SCHERING CORP <b>DWPI Title:</b> New hydroxy-subst. azetidione deriv. are hypocholesterolaemic agents useful for treating or preventing atherosclerosis, or reducing plasma cholesterol levels	1999-05-19	A61K 31/21

The INPADOC Legal Status field makes it easy to locate the original product patent for a drug.

1. On the Fielded search form, select the **INPADOC Legal Status** field
2. Search for (\*1SPC or CCP or supplementary protection certificate) SAME (approved name),  
**Example:**  
(\*1SPC or CCP or supplementary protection certificate) SAME atorvastatin
3. Click **Search** and review the matching patents; you will likely find both the patent application and the related granted patent

## Find potential uses for the substances or drugs in your search

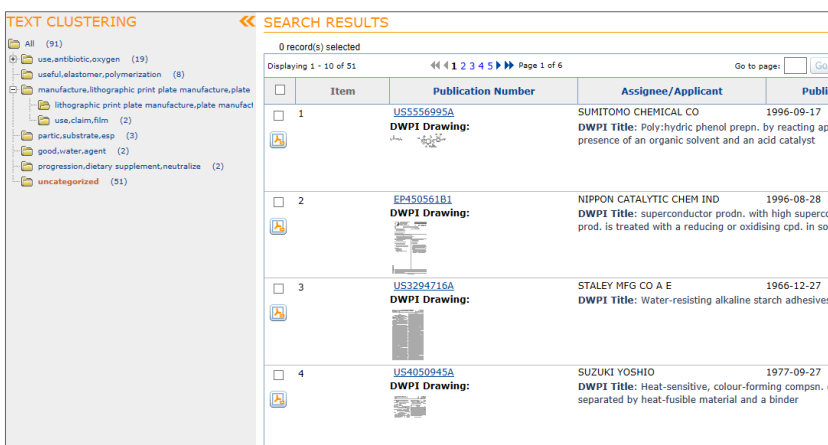
Focus your results on relevant patents



The Results Dashboard can help you further refine your results on patents for specific substances.

- Use **Dead or Alive** to focus either on substances with active patents (e.g., for licensing) or inactive patents (e.g., for production of generics)
- Use **Estimated Remaining Life** to explore substances that will likely exit patent protection soon
- Use classification codes (**CPC**, **IPC**, or **DWPI Manual Codes**) to focus on specific substances or uses
- Users with access to Chemical Patents Index for **DWPI Manual Codes** can focus results on specific substances with codes in sections B, C, and E

## Analyze potential uses with text clusters



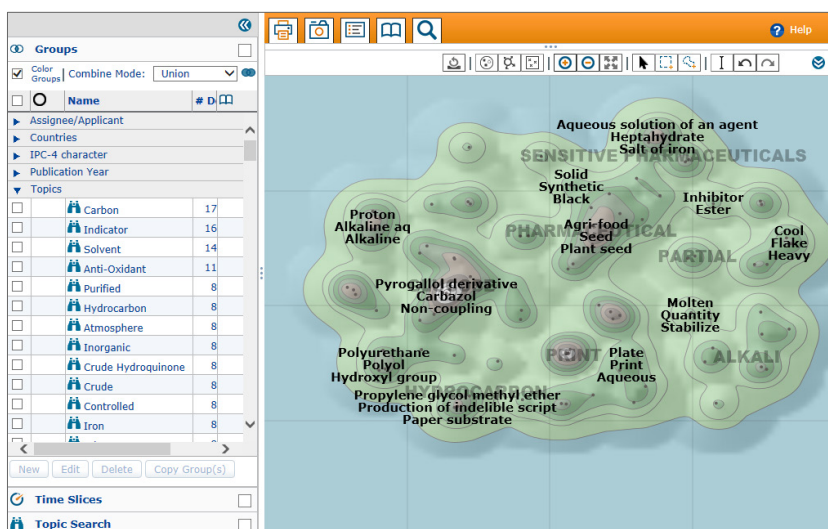
Text clusters group records in your results based on common text in selected fields.

1. Click **Analyze, Text Clustering**
2. Select **Title-DWPI** and **Abstract – DWPI Use** as your Chosen Fields and click **Create**

The text clusters for your results display on the left. Review the clusters for insight into the substance’s potential uses:

- Click the plus sign to expand a cluster
- Potential uses display as key words in the cluster
- Review smaller clusters to see less common applications for the substance, which may indicate potential new markets
- Review the Uncategorized cluster for patents with unusual or unique applications

## Explore uses and markets with ThemeScape



1. Click **Analyze, ThemeScape** and enter a Name, and click the Field Options tab
2. Remove **Abstract – DWPI** from the Chosen Fields list
3. Move **Abstract – DWPI Use** to the Chosen Fields list and select Both for the Treatment, then click **Create**

Open the map to explore various aspects of your results:

- Select **Topics** to quickly locate records for specific uses or formulations
- Use **Assignee/Applicant** to see which companies invested in different aspects on the map, and combine with Topics for more detailed analysis
- Combine **Remaining Life** with **Topics** to anticipate specific formulations or uses exiting patent protection
- Use **Dead or Alive** to analyze potential freedom to operate issues; combine with **Countries** to explore specific markets

## Identify substances with supplemental protection or patent term extensions

**SEARCH RESULTS**

156 record(s) found (display limit 60,000) 23 DWPI families 0 record(s) selected

Search within your results: INPADOC Legal Status (SUPPLEMENTARY ADJ PROTECTION ADJ CERTIFICATE) OR (PATENT ADJ TERM ADJ EXTENSION) [Subsearch]

Filter your results

Inventor: Show Top: 10 20 Assignee: Show Top: 10 20

Reset Filter Results

Displaying 1 - 23 of 23 Display 500 records per page

Item	Publication Number	Assignee/Applicant	DWPI Assignee/Applicant	Assignee-Current US
1	WO2016143887A1	MEDI CO LTD	MEDI CO LTD	-
DWPI Title: New lactic acid bacterium, preferably Lactobacillus pentosus used for producing pyrogallol for providing antiallergic effect, obtained from substrate				
1.1	JP2016167984A	MEDI CO LTD	MEDI CO LTD	-
DWPI Title: New lactic acid bacterium, preferably Lactobacillus pentosus used for producing pyrogallol for providing antiallergic effect, obtained from substrate				
2	EP31530A1	MITSUBISHI CHEM IND	MITSUBISHI CHEM IND LTD	-
DWPI Title: Pyrogallol prodn. from cyclohexane-tri:ol over platinum gp. metal catalyst in inert gas stream				
2.1	DE3067213D1	MITSUBISHI CHEM IND	MITSUBISHI CHEM IND LTD	-
DWPI Title: Pyrogallol prodn. from cyclohexane-tri:ol over platinum gp. metal catalyst in inert gas stream				

Search within your results (Subsearch) to easily research supplemental protection or term extensions, which affect freedom to operate or the ability to produce generics.

- Select INPADOC Legal Status as your search field
- Use the search term *(supplementary protection certificate) OR (patent term extension) OR \*1SPC OR CCP*
- Use the SAME operator with a substance or drug name to focus on specific supplements or extensions, e.g.: *((supplementary protection certificate) OR (patent term extension) OR \*1SPC OR CCP) SAME Atorvastatin*

**Tip:** Our predictive data for estimated expiration dates and dead or alive accounts for both patent term extensions (PTC) and supplemental protection certificates (SPC). Review those fields to easily research when a patent is predicted to expire.

## Research specific formulations or processes

CPC combination codes help you research compositions comprised of multiple specific compounds. The combination codes describe each claimed combination of chemicals as a discrete set of CPC symbols. The SAME operator limits your search to only those symbols found in an individual set, as opposed to other techniques which may find any patents that include that symbol.

**PATENT SEARCH** PUBLICATION NUMBER

FIELDLED EXPERT

Class. collection: DWPI, EP App, EP Grant, US App, US Grant...

Fielded search operators: AND | OR | NOT | ADJ | NEAR | SAME | ( ) | \* | ?

CPC-Current-Combination Codes (C05B000102) SAME (C05D000102) SAME (C05D000902) [Browse]

Preview/edit query: CPC=|(C05B000102) SAME (C05D000102) SAME (C05D000902);

Clear All Fields [Reset] [Search]

1. On the Fielded search form, select **CPC-Current Combination Codes**
2. Click the Browse button, select the codes you want to research, and click **Save**
3. Change the OR's automatically inserted to SAME
4. Click **Search**

## Analyze results from dedicated chemical structure research tools

Derwent Innovation does not directly support chemical structure searches. However, you can export your results from dedicated chemical research tools and use publication number search to use the powerful analytic tools in Derwent Innovation for research.

The screenshot shows the 'PUBLICATION NUMBER' search interface. It includes a 'Number type' section with radio buttons for 'Patent Publication Number' and 'DWPI Accession Number' (selected). An 'Output type' section has radio buttons for 'Result Set' (selected), 'Work File', 'Document Copies', and 'File Histories'. A text input field labeled 'Enter/upload numbers:' contains a list of accession numbers. A 'Search' button is located at the bottom right.

1. Export a list of publication numbers or DWPI accession numbers from the chemical research tool
2. From the Dashboard, click **Patents**, then click the Publication Number tab and select the **Number type**
3. Paste the list of publication or DWPI Accession numbers; you can also save the list as TXT file and use the ... button to upload it
4. Click **Search** to locate those specific records

You can use the results from your search like any other results in Derwent Innovation. You can perform immediate analysis with the Results Dashboard, create charts, and analyze the records with ThemeScope or text clusters.

## Learn more with these additional resources

- [Research Patents in a Specific Technology Domain](#)
- [Analyze the Competitive Landscape in a Technology Space](#)
- [Tips & Tricks: Derwent Abstract Subsections](#)
- [Tips & Tricks: Use Text Clustering to Find New Search Terms](#)
- [Tips & Tricks: Search for Supplementary Protection Certificate \(SPC\) or Patent Term Extension \(PTE\) Information](#)