

Web of Science

<https://www.webofscience.com/>

2025

Web of Science არის სამეცნიერო პლატფორმა, რომელიც მოიცავს სხვადასხვა დარგის საძიებო მონაცემთა ბაზებს და უზრუნველყოფს კვლევითი მასალების ეფექტურ მოძიებას, ანალიზსა და შეფასებას.

Web of Science: Platform - Scope and Figures



34,000+

Journals across the platform

21,900+

Total journals in the Core Collection

2.2 billion+

Cited references

196 million+

Records

20 million +

Records with funding data

109 million

Patents for over 56 million inventions

14.5 million+

Data Sets and Data Studies

Backfiles to 1900

With cover-to-cover indexing

300,000+

Conference proceedings

137,000+

Books

Statistics as of October 2022

Core Collection

Web of Science Core Collection არის მთავარი რესურსი პლატფორმაზე და სანდო ციტირების ბაზა სამეცნიერო კვლევისთვის.

მოიცავს:

- არქივს 1900 წლიდან დღემდე.
- 21000-ზე მეტ რეცენზირებად, მაღალი ხარისხის სამეცნიერო ჟურნალს, რომელიც გამოქვეყნებულია მთელ მსოფლიოში (მათ შორის ღია წვდომის ჟურნალები);
- 300000-ზე მეტ საკონფერენციო მასალებს;
- 137000-ზე მეტ წიგნს.

წვდომა რესურსზე

- <https://www.webofscience.com>
- ინსტიტუციური მეილით თქვენი პირადი ანგარიშის შექმნისას მიიღებთ ასევე დისტანციურ წვდომას

რეგისტრაცია Web of Science-ზე

The image shows the Web of Science registration page. At the top, there is a black navigation bar with the Clarivate logo on the left, and 'English' and 'Products' on the right. Below this, the 'Web of Science' logo is on the left, and 'Search', 'Sign In', and a 'Register' button (highlighted with a red box) are on the right. A red arrow points upwards towards the 'Register' button. The main content area has two tabs: 'DOCUMENTS' and 'RESEARCHERS'. The 'DOCUMENTS' tab is active, showing a search bar with the text 'Search in: Web of Science Core Collection' and 'Editions: All'. Below the search bar, there are two sub-tabs: 'DOCUMENTS' and 'CITED REFERENCES'. The 'DOCUMENTS' sub-tab is active, showing a search field with the text 'All Fields' and a search input field with the text 'Example: liver disease india singh'. Below the search input, there are two buttons: '+ Add row' and '+ Add date range', followed by a link to 'Advanced search'. At the bottom right, there is a 'Clear' button and a 'Search' button. In the bottom right corner, there is a purple circular icon with a white question mark and the number '18'.

რეგისტრაცია Web of Science-ზე

Clarivate

English

Web of Science™

Register for a FREE Web of Science Profile

Sign in

Register

Email address *

Password *

Re-enter password *

First Name *

Last Name *

Avb2e

Captcha *

Register

Register to personalize your Web of Science experience

With your institution's access, you can register for an account to unlock more Web of Science features:



Save work

Save your searches or create customized marked lists to organize your research.



Connect to more products

Export to your EndNote library with one click and stay signed in across Clarivate products.



Find new content faster

View recommended content in your search results and directly on your personalized homepage.



Stay up to date

Receive alerts for new search results, citing articles, and journal content in your research area.

ავტორიზაცია



English ▼

Web of Science™

Welcome!

Sign in to continue with Web of Science

Sign in

Register

Email address *

Please enter a valid email address.

Password *

Please enter a password

[Forgot Password?](#)

Sign in

Register to personalize your Web of Science experience

With your institution's access, you can register for an account to unlock more Web of Science features:



Save work

Save your searches or create customized marked lists to



Connect to more products

Export to your EndNote library with one click and stay signed in

ძირითადი საძიებო განყოფილებები:

Documents-სამეცნიერო პუბლიკაციებისა და ნაშრომების ძიება.

Researchers - მკვლევართა პროფილებისა და მათი ციტირების ისტორიის ძიება.

The screenshot shows the Web of Science search interface. At the top, there is a black header with the Clarivate logo on the left, 'English' and 'Products' on the right. Below this is a white header with 'Web of Science' and a 'Search' button. A red arrow points from the 'Search' button to the 'DOCUMENTS' tab. Another red arrow points from the 'Search' button to the 'RESEARCHERS' tab. The 'DOCUMENTS' tab is selected and highlighted in light blue. Below the tabs, there is a search bar with the text 'Search in: Web of Science Core Collection' and 'Editions: All'. Below the search bar, there are two tabs: 'DOCUMENTS' (selected) and 'CITED REFERENCES'. Below these tabs, there is a search input field with the placeholder text 'Example: oil spill* mediterranean'. Below the search input field, there are two buttons: '+ Add row' and '+ Add date range'. Below these buttons, there is a link 'Advanced search'. At the bottom right, there are two buttons: 'Clear' and 'Search'. In the bottom right corner, there is a purple circle with a white question mark and the number '18'.

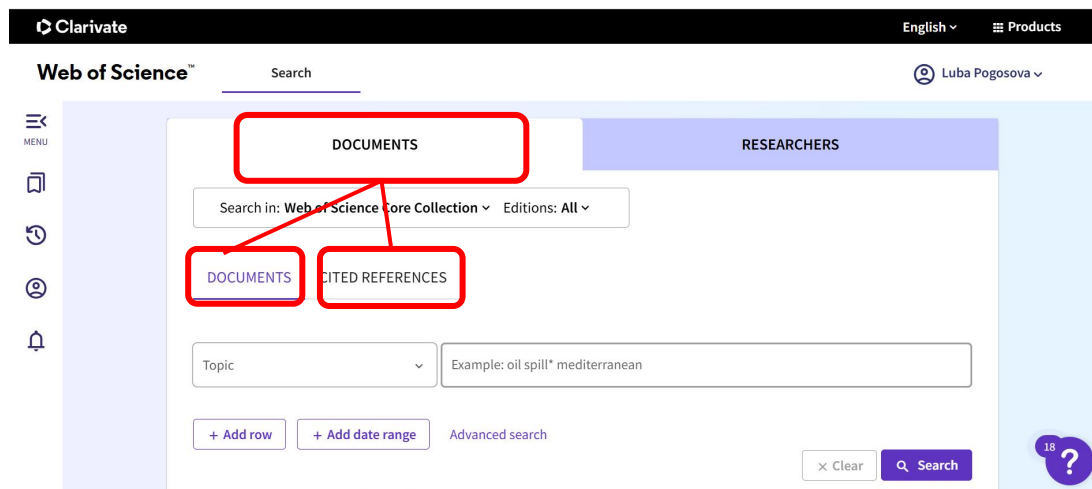
Documents განყოფილებაში ძიების შესაძლებლობები

- **Documents**

სამეცნიერო პუბლიკაციების ,
სტატიებისა და ნაშრომების
ძიება

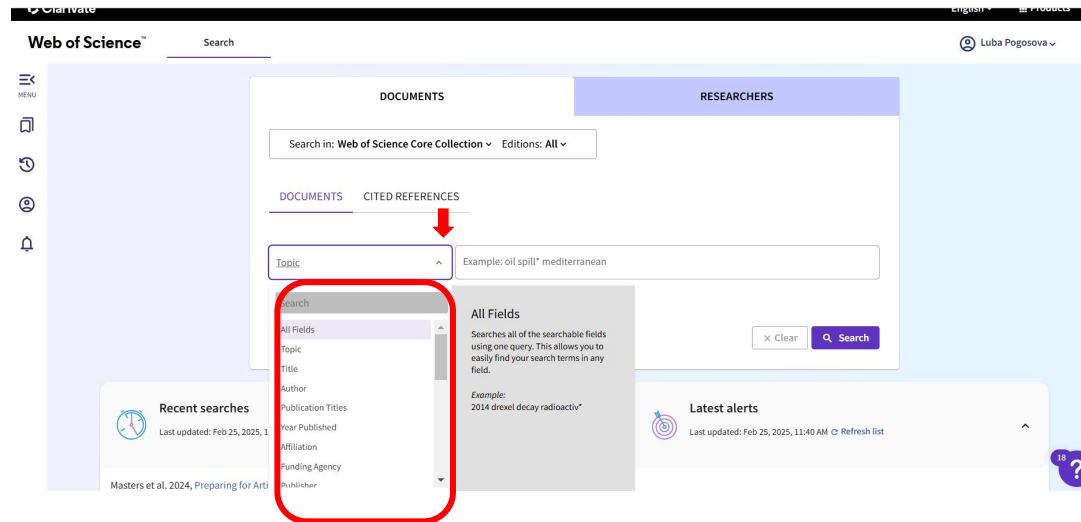
- **Cited Referenced**

კონკრეტული ნაშრომების
ციტირების საფუძველზე
შესაბამისი წყაროების და
გავლენის აღმოჩენა.

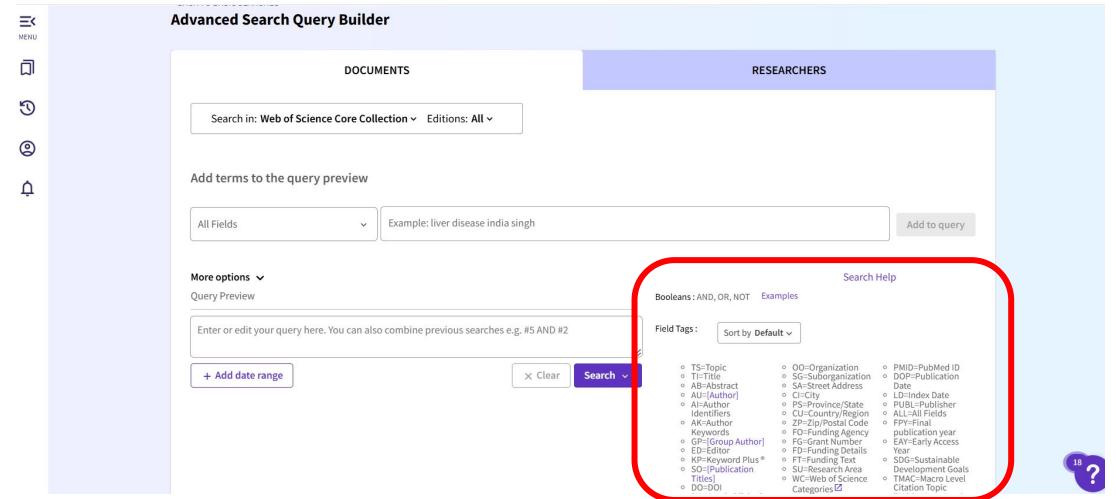


დოკუმენტის ძიების მეთოდები

ზოგადი ძიება (Basic Search)



სიღრმისეული ძიება (Advanced Search)



ძირითადი საძიებო ოპერატორები და მათი განმარტებები

- **AND** - პუბლიკაციები, რომლებიც მოიცავს ორივე ტერმინს
- **OR** - პუბლიკაციები, რომლებიც მოიცავს რომელიმე ტერმინს
- **NOT** - გამორიცხავს კონკრეტულ ტერმინს
- **NEAR/x** - ტერმინები, რომლებიც ერთმანეთთან ახლოსაა ტექსტში
- **SAME** - ტერმინები ერთსა და იმავე ველში

სპეციალური სიმბოლოები

- **“...”** - ზუსტი ფრაზა
- ***** - სიტყვების ფუძის ძიება
- **?** - ერთი სიმბოლოს შეცვლა

შედეგების გაფილტვრა

დოკუმენტის ძიების შემდეგ შედეგების გაფილტვრა დაგეხმარებათ სწრაფად მოიძიოთ თქვენთვის ყველაზე აქტუალური მასალა

The screenshot displays a research database interface with 4,589 documents. The left sidebar contains a 'Refine results' section with four filter categories: Quick Filters, Publication Years, Document Types, and Researcher Profiles. The 'Quick Filters' section is highlighted with a red box and includes the following items:

- ☐ Highly Cited Papers: 62
- ☐ Hot Papers: 2
- ☐ Review Article: 1,018
- ☐ Early Access: 23
- ☐ Open Access: 2,190
- ☐ Enriched Cited References: 232
- ☐ Open publisher-invited reviews: 17

The 'Publication Years' section shows a 'Show Final Publication Year' toggle and a list of years from 2021 to 2025 with corresponding document counts. The 'Document Types' section lists various document types with their counts. The 'Researcher Profiles' section shows a 'Show Researcher Profiles' toggle and a list of researcher names with their document counts.

The main results area displays a list of documents, each with a checkbox, a title, author information, publication details, and a 'View full text' link. The first document is 'ADVANCES IN IMMUNOLOGY Tumor Immunology PREFACE' by Schreiber, RD, published in 2016 in 'TUMOR IMMUNOLOGY', 130 pp. XI-XIII, with 0 references. The second document is 'Immunology' by Saari, S; Näreaho, A and Nikander, S, published in 2019 in 'CANINE PARASITES AND PARASITIC DISEASES', pp.255-258, with 8 references. The third document is 'Immunology' by Gintsburg, AL; Gabibov, AG; (...); Ataulakhov, RI, published in Sep-oct 2021 in 'INFEKTSIYA I IMMUNITET', 11 (5), pp.994-996, with 1 reference. The fourth document is 'Immunology' by Lafon, M, published in 2013 in 'RABIES: SCIENTIFIC BASIS OF THE DISEASE AND ITS MANAGEMENT, 3RD EDITION', pp.387-408, with 7 citations and 125 references.

შედეგების დახარისხება

The screenshot displays a research database interface with the following components:

- Top Navigation:** Includes a menu icon, a search bar with the text "4,589 Documents", and a list of keywords: "+ immunology education", "+ translational immunology", "+ allergy immunology", "+ immunology", and "+ immunology teaching".
- Left Sidebar:** Contains a "Refine results" section with a search bar and a list of filters: "Quick Filters" (Highly Cited Papers, Hot Papers, Review Article, Early Access, Open Access, Enriched Cited References, Open publisher-invited reviews) and "Publication Years" (2025, 2024).
- Main Content Area:** Displays a list of search results. The first result is "Oncology Meets Immunology: The Cancer-Immunity Cycle" by Chen, DS and Mellman, I. The second result is "Immunology of COVID-19: Current State of the Science" by Vabret, N; Britton, GJ; (...); Samstein, RM.
- Right Sidebar:** Shows a "Background: Highest first" dropdown menu, a "Relevance" section, and a "Citations" section with a count of 4,760.
- Bottom Right:** A purple circular button with the number "18" and a question mark.

The dropdown menu for sorting is open, showing the following options:

- Relevance
- Recently added
- Citation class
- Date: newest first
- Date: oldest first
- Citations: highest first
- Citations: lowest first
- Usage (all time): most first
- Usage (last 180 days): most first
- Conference title: A to Z
- Conference title: Z to A
- First author name: A to Z
- First author name: Z to A
- Publication title: A to Z
- Publication title: Z to A

სტატიის გვერდი

MENU

Free Full Text from Publisher

Export ▾Add To Marked List ▾

< 1 of 4,589 >

Metabolic heterogeneity in tumor cells impacts immunology in lung squamous cell carcinoma

By

Are you this author?

Source

Article Number

Published

Indexed

Document Type

Jump to

Abstract

Keywords

Wang, Q (Wang, Qian)^[1]; Sun, N (Sun, Na)^[1]; Zhang, CY (Zhang, Chaoyang)^[1]; Kunzke, T (Kunzke, Thomas)^[1]; Zens, P (Zens, Philipp)^[2],^[3]; Feuchtinger, A (Feuchtinger, Annette)^[1]; Berezowska, S (Berezowska, Sabina)^[2],^[4],^[5]; Walch, A (Walch, Axel)^[1]

ONCOIMMUNOLOGY ▾
Volume: 14 Issue: 1
DOI: 10.1080/2162402X.2025.2457797

2457797

DEC 31 2025

2025-02-15

Article

↓ Enriched Cited References

Metabolic processes are crucial in immune regulation, yet the impact of metabolic heterogeneity on immunological functions remains unclear. Integrating metabolomics into immunology allows the exploration of the interactions of multilayered features in the biological system and the molecular regulatory mechanism of these features. To elucidate such insight in lung squamous cell carcinoma (LUSC), we analyzed 106 LUSC tumor tissues. We performed high-resolution matrix-assisted laser desorption/ionization (MALDI) mass spectrometry imaging (MSI) to obtain spatial metabolic profiles, and immunohistochemistry to detect tumor-infiltrating T lymphocytes (TILs). Unsupervised k-means clustering and Simpson's diversity index were employed to assess metabolic heterogeneity, identifying five distinct metabolic tumor subpopulations. Our findings revealed that TILs are specifically associated with metabolite distributions, not randomly distributed. Integrating a validation cohort, we found that heterogeneity-correlated metabolites interact with CD8⁺ TIL-associated genes, affecting survival. High metabolic heterogeneity was linked to worse survival and lower TIL levels. Pathway enrichment analyses highlighted distinct metabolic pathways in each subpopulation and their potential responses to chemotherapy. This study uncovers the significant impact of metabolic heterogeneity on immune functions in LUSC, providing a foundation for tailoring therapeutic strategies.

Author Keywords:

Spatial metabolomics; metabolic heterogeneity; Immunology; lung cancer; metabolic tumor subpopulation

Citation Network

In Web of Science Core Collection

0 Citations [Create citation alert](#)

57 Cited References [View Related Records](#)

How does this document's citation performance compare to peers?

[Open comparison metrics panel](#) **New**

Data is from InCites Benchmarking & Analytics

Use in Web of Science

1 Last 180 Days 1 Since 2013

[Learn more →](#)

This record is from:

Web of Science Core Collection

- Science Citation Index Expanded (SCI-EXPANDED)

View PDF

EN

18

?

სტატიის გვერდზე ხელმისაწვდომი ინფორმაცია

- **სათაური** – სტატიის სათაური.
- **ავტორები** – ავტორების სია და მათი თანამშრომლობები.
- **რეზიუმე** – სტატიის შინაარსის მოკლე აღწერა.
- **საკვანძო სიტყვები** – სტატიისთვის დამახასიათებელი სიტყვები.
- **ციტირება** – სტატიის ციტირების რაოდენობა.
- **რეფერენსები** – სტატიის მითითებული წყაროების სია.
- **ჟურნალი** – ჟურნალის დეტალები, მათ შორის, ნომერი და გამოქვეყნების თარიღი.
- **DOI** – (Digital Object Identifier) სტატიის უნიკალური იდენტიფიკატორი.
- **სრული ტექსტი** – ლინკები სტატიის სრულ ტექსტზე, თუ ხელმისაწვდომია.
- **მეტრიკა** – სტატისტიკა სტატიის ნახვების, ჩამოტვირთვების ან სხვა მონაცემების შესახებ.

Researchers განყოფილებაში ძიება შესაძლებელია : ავტორის სახელის და გვარის, საიდენტიფიკაციო ნომრისა და აფილირების მიხედვით.

The screenshot displays the Clarivate Web of Science interface. At the top, the Clarivate logo is on the left, and 'English' and 'Products' are on the right. Below the header, 'Web of Science' and 'Search' are visible. A sidebar on the left contains icons for menu, documents, history, profile, and notifications. The main content area has two tabs: 'DOCUMENTS' and 'RESEARCHERS', with the latter highlighted by a red box. Below the 'RESEARCHERS' tab, there are three search options: 'Name Search', 'Author Identifiers', and 'Organization'. The 'Author Identifiers' option is highlighted by a red box, and a red line connects it to the 'RESEARCHERS' tab. To the right of these options is a search input field with a 'Clear' button and a 'Search' button. Below the search options, there is a section titled 'Author Identifiers' with instructions: 'Find an author record using the author's Web of Science ResearcherID or ORCID ID.' It provides examples: 'A-1009-2008' and '0000-0003-3768-1316'. A note states: 'NOTE: Some Web of Science ResearcherIDs and ORCID IDs may not be associated with an author record. Try using the name search instead.' At the bottom left, there is a 'Recent searches' section with a clock icon and the text 'Last updated: Feb 28, 2025, 10:32 AM'. At the bottom right, there is an 'alerts' section with the text 'Last updated: Feb 28, 2025, 10:32 AM' and a 'Refresh list' button. A purple circular icon with the number '18' and a question mark is in the bottom right corner.

Clarivate

English Products

Web of Science™ Search

Luba Pogossova

MENU

DOCUMENTS

RESEARCHERS

Name Search

Name Search

Author Identifiers

Organization

Author Identifiers

Find an author record using the author's Web of Science ResearcherID or ORCID ID.

Examples:

A-1009-2008

0000-0003-3768-1316

NOTE: Some Web of Science ResearcherIDs and ORCID IDs may not be associated with an author record. Try using the name search instead.

Recent searches

Last updated: Feb 28, 2025, 10:32 AM

alerts

Last updated: Feb 28, 2025, 10:32 AM Refresh list

18 ?

დამატებითი ინფორმაციისთვის დაგვიკავშირდით

- ლუბა ჰოდოსოვა
- მინადარ მულაძე

library@tma.edu.ge