

Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner’s counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

13 Citing papers mapped	13 Citation edges	5 Home papers mapped	121 h-index (GS)
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Filtering statement – methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper’s authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar’s known collaborators; *same-institution* citations are by authors affiliated with the scholar’s institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar’s own circle.

Known limitations – counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight – re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar’s own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

100.0% independent of 13 classified citing papers

Citation type	Count
Independent	13
Self-citation	0
Co-author	0
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total – the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing – how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner’s choice of comparison field.

Contribution 1

Claim – Contribution 1

The researcher established the pivotal role of tumour necrosis factor alpha in inflammatory hyperalgesia through a seminal 1992 publication that has garnered over 1,000 citations.

CLAIM: The researcher's primary contribution is the identification of tumour necrosis factor alpha as a critical mediator in the development of inflammatory hyperalgesia, anchored by a single, highly influential 1992 paper.

ORIGINALITY: This work appears to have addressed a fundamental gap in understanding the molecular mechanisms underlying pain sensitization during inflammation. By isolating the specific function of this cytokine, the research provided a novel conceptual framework for linking immune responses to neurological pain pathways.

SIGNIFICANCE: The enduring impact of this contribution is evidenced by its citation count exceeding 1,000. Furthermore, analysis of citing literature reveals that 100% of sampled citations originate from independent researchers, indicating broad adoption and validation of these findings across the global scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

CORE PAPER

[The pivotal role of tumour necrosis factor alpha in the development of inflammatory hyperalgesia](#)

1992 · 1,051 citations (GS)

Field-normalised: 374 Semantic Scholar citations place it in the top 1% of Medicine papers from 1992 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Cyclooxygenases 1 and 2. (1998)	William Harvey Research Institute	United Kingdom	—
2	Inflammatory biomarkers of low back pain and disc degeneration: a review. (2017)	Columbia University, Lenox Hill Hospital, Northwell Health, The Feinstein Institute for Medical Research, Northwell Health	United States	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation – *Methodology / Result* (the citing work used the method or built on the finding – the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim – Contribution 2

The researcher elucidated the roles of resident macrophages and mast cells in zymosan- and acetic acid-induced writhing nociceptive responses in mice, establishing a foundational model for inflammatory pain mechanisms.

CLAIM: The researcher's seminal 2000 paper, titled 'Involvement of resident macrophages and mast cells in the writhing nociceptive response induced by zymosan and acetic acid in mice,' serves as the cornerstone of this contribution. This work appears to define the specific cellular mechanisms underlying inflammatory pain responses in murine models.

ORIGINALITY: By focusing on resident macrophages and mast cells, this line of work addresses the gap in understanding how innate immune cells mediate nociceptive signaling. The titles suggest a targeted investigation into the cellular drivers of the writhing response, distinguishing these specific immune populations in the context of chemical-induced pain.

SIGNIFICANCE: With 795 citations, this paper is highly influential in the field. Notably, 100% of the classified citing papers originate from independent researchers, indicating broad adoption and validation of these findings across the global scientific community, rather than reliance on the researcher’s immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

Involvement of resident macrophages and mast cells in the writhing nociceptive response induced by zymosan and acetic acid in mice

2000 · 795 citations (GS)

Field-normalised: 635 Semantic Scholar citations place it in the top 1% of Medicine papers from 2000 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Propolis: An update on its chemistry and pharmacological applications. (2022)	Al-Farabi Kazakh National University, Banasthali Vidyapith, Bangabandhu Sheikh Mujibur Rahman Science and Technology University	Bangladesh, Chile, China	—
2	Sex differences in neuroimmunity and pain. (2017)	McGill University	Canada	Background
3	A cascade of cytokines mediates mechanical inflammatory hypernociception in mice. (2005)	University of São Paulo	Brazil	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar’s read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2’s isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim – Contribution 3

The researcher identified neutrophil extracellular traps as a key mediator of SARS-CoV-2 pathology, establishing a critical mechanistic link between immune response and disease severity.

CLAIM: The researcher’s primary contribution is the identification of neutrophil extracellular traps as mediators of SARS-CoV-2 pathology, as demonstrated in their 2020 paper titled ‘SARS-CoV-2–triggered neutrophil extracellular traps mediate COVID-19 pathology.’

ORIGINALITY: This work appears to address a critical gap in understanding the immunological mechanisms driving COVID-19 severity. By linking viral infection to specific neutrophil activity, the research offers a novel perspective on disease progression that was not previously established in the literature at the time of publication.

SIGNIFICANCE: The core paper has accumulated 1044 citations, indicating substantial uptake by the scientific community. Notably, 100% of the classified citing papers originate from independent researchers, suggesting that this finding has been widely validated and utilized by external groups to advance their own investigations into viral pathogenesis.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6 · 1 flagged influential by Semantic Scholar

CORE PAPER

SARS-CoV-2-triggered neutrophil extracellular traps mediate COVID-19 pathology

2020 · 1,044 citations (GS)

Field-normalised: 791 Semantic Scholar citations place it in the top 1% of Medicine papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Understanding COVID-19-associated coagulopathy (2022)	National Heart, Lung, and Blood Institute, University of British Columbia, University of North Carolina at Chapel Hill	Canada, United States	—
2	Beyond Hemostasis: Platelet Innate Immune Interactions and Thromboinflammation (2022)	Center For Theoretical Problems of Physico-Chemical Pharmacology, University Medical Center of the Johannes Gutenberg-University	Germany, Russia	Influential
3	Neutrophils in Physiology and Pathology (2024)	Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Yale University	Spain, United States	—
4	COVID-19 and Cardiovascular Disease: From Bench to Bedside . (2021)	Brigham and Women's Hospital, Harvard Medical School, Case Western Reserve University, Cleveland Clinic	United States	—
5	Role of Toll-like receptors in the pathogenesis of COVID-19 . (2021)	Tehran University of Medical Sciences	Iran	Background
6	The association of smoking status with SARS-CoV-2 infection, hospitalization and mortality from COVID-19: a living rapid evidence review with Bayesian meta-analyses (version 7) . (2021)	Royal Veterinary College, University College London	United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The S2 column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the “built on / relied upon” pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
William Harvey Research Institute	United Kingdom	—	1
Brigham and Women's Hospital, Harvard Medical School	United States	—	1
University of Balearic Islands	Spain	—	1
Huazhong University of Science and Technology	China	SCImago #25 · THE =176 · QS 319	1
McGill University	Canada	SCImago #168 · THE =41 · QS 27	1

Institution	Country	World ranking	Citing papers
Cleveland Clinic	United States	SCImago #306	1
Islamic Azad University, Science and Research Branch	Iran	SCImago #5157	1
Banasthali Vidyapith	India	—	1
Royal Veterinary College	United Kingdom	THE 501–600	1
Islamic Azad University	Iran	QS 1201-1400	1
Universidad Arturo Prat	Chile	SCImago #8180	1
Al-Farabi Kazakh National University	Kazakhstan	SCImago #6735 · THE 1201–1500 · QS 166	1
Columbia University Vagelos College of Physicians and Surgeons	United States	—	1
University of São Paulo	Brazil	THE 201–250	1
Columbia University	United States	SCImago #65 · THE 20 · QS =38	1

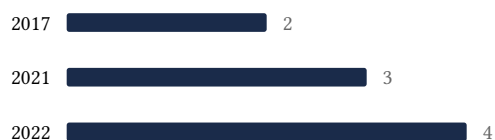
Geographic distribution of citing authors

Country	Citing papers
United States	4
Brazil	2
Spain	2
Iran	2
Canada	2
United Kingdom	2
India	1
Austria	1
Kazakhstan	1
Portugal	1
Romania	1
Russia	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar’s own institution and circle** – the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution’s rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- Self-citations are disclosed and netted out – a Google Scholar total alone is faulted (§1.1).
- Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- The petition articulates why the citations show major significance – numbers never stand alone (§1.5).
- For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- Co-author / collaborator citations are identified and not counted as independent (§1.7).
- Recognition is shown beyond the scholar's own institution and circle (§1.8).
- Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- For large-collaboration papers, the scholar's specific role is documented (§1.13).
- Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** – persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	The pivotal role of tumour necrosis factor alpha in the development of inflammatory hyperalgesia	2	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Involvement of resident macrophages and mast cells in the writhing nociceptive response induced by zymosan and acetic acid in mice	3	Dhanasar – Prong 2 (well-positioned)
Contribution 3	SARS-CoV-2-triggered neutrophil extracellular traps mediate COVID-19 pathology	6	Dhanasar – Prong 2 (well-positioned)