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

23	23	3	53
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

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.

69.6% independent of 23 classified citing papers

Citation type	Count
Independent	16
Self-citation	1
Co-author	5
Same-institution	1

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 identified trehalose as a novel mTOR-independent autophagy enhancer that accelerates the clearance of mutant Huntingtin and Alpha-Synuclein, establishing a key mechanism for neurodegenerative disease intervention.

CLAIM: This line of work centers on the 2007 Journal of Biological Chemistry paper identifying trehalose as a novel mTOR-independent autophagy enhancer that accelerates the clearance of mutant Huntingtin and Alpha-Synuclein. The researcher subsequently expanded this foundation with a 2010 Physiological Reviews article on the regulation of mammalian autophagy in physiology and pathophysiology.

ORIGINALITY: The titles suggest the researcher addressed a critical gap by demonstrating that autophagy could be enhanced independently of the mTOR pathway, a dominant regulatory mechanism at the time. By linking trehalose to the clearance of specific toxic proteins associated with neurodegeneration, this work appears to have introduced a new therapeutic avenue distinct from existing mTOR-targeted strategies.

SIGNIFICANCE: The core paper has accumulated 1,360 citations, while the follow-up review has garnered 2,213 citations, indicating substantial uptake by the scientific community. Furthermore, analysis of citing papers reveals that nearly 70% originate from independent researchers, suggesting that this work has influenced a broad and diverse field beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 12

CORE PAPER

Trehalose, a Novel mTOR-independent Autophagy Enhancer, Accelerates the Clearance of Mutant Huntingtin and Alpha-Synuclein

2007 · Journal of Biological Chemistry · 1,360 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Lysosomes in senescence and aging (2023)	University of Pittsburgh School of Medicine/University of Pittsburgh Medical Center	United States	—
2	Parkinson disease (2017)	Medical University Innsbruck, San Francisco Veteran's Affairs Medical Center, UCL Institute of Neurology	Australia, Austria, Canada	—
3	The role of autophagy in neurodegenerative disease (2013)	Nathan S. Kline Institute	United States	—
4	Methods in mammalian autophagy research (2010)	Howard Hughes Medical Institute, Osaka University, Tokyo Medical and Dental University	Japan	—
5	Tau pathology and neurodegeneration (2013)	University of Cambridge	United Kingdom	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

Regulation of mammalian autophagy in physiology and pathophysiology

2010 · Physiological Reviews · 2,213 citations (GS)

Field-normalised: 1,755 Semantic Scholar citations place it in the top 1% of Medicine papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Mechanisms of Diabetic Complications (2013)	Baker IDI Heart and Diabetes Institute	Australia	—
2	Targeting the RAS/RAF/MAPK pathway for cancer therapy: from mechanism to clinical studies (2023)	Gyeongsang National University	South Korea	—
3	Autophagy in Human Health and Disease (2013)	Brigham and Women's Hospital, University of Texas Southwestern Medical Center	United States	—
4	Ageing as a risk factor for disease (2012)	University College London	United Kingdom	—
5	Signals from the lysosome: a control centre for cellular clearance and energy metabolism (2013)	Telethon Institute of Genetics and Medicine (TIGEM)	Italy	—
6	A new perspective on NAFLD: Focusing on lipid droplets (2022)	University of Pennsylvania, University of Washington	United States	—
7	How autophagy controls the intestinal epithelial barrier (2022)	University of Toronto	Canada	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 2

Claim — Contribution 2

The researcher established standardized guidelines for autophagy assays, creating a foundational reference that has been cited over 15,000 times to ensure experimental rigor.

The researcher's primary contribution is the development of comprehensive guidelines for the use and interpretation of assays for monitoring autophagy, published in 2016. This work serves as a central reference point for the field, addressing the critical need for standardized methodologies in autophagy research. By providing clear protocols and interpretative frameworks, the researcher helped resolve inconsistencies in experimental design and data analysis that previously hindered reproducibility and comparability across studies. The absence of follow-up papers by the same author suggests this single publication stands as a definitive, self-contained resource rather than part of an ongoing iterative series.

The significance of this contribution is evidenced by its extensive uptake within the scientific community, with the paper accumulating 15,272 citations. This high citation count indicates that the guidelines have become a standard reference for researchers worldwide. Furthermore, analysis of citing papers reveals that 69.6% of citations originate from independent researchers, demonstrating broad adoption beyond the author's immediate circle. This widespread independent usage underscores the work's role as a foundational tool that has materially advanced the reliability and standardization of autophagy research globally.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Guidelines for the use and interpretation of assays for monitoring autophagy

2016 · 15,272 citations (GS)

Field-normalised: 4,392 Semantic Scholar citations place it in the top 1% of Biology papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	AMPK: guardian of metabolism and mitochondrial homeostasis (2018)	The Salk Institute for Biological Studies	United States	—
2	Recent advances in Alzheimer's disease: Mechanisms, clinical trials and new drug development strategies (2024)	University of Tennessee Health Science Center, West China Hospital, Sichuan University	China, United States	—
3	Emerging mechanisms of lipid peroxidation in regulated cell death and its physiological implications (2024)	Guangzhou Medical University, The First Affiliated Hospital of Guangzhou Medical University	China	—
4	Chloroquine inhibits autophagic flux by decreasing autophagosome-lysosome fusion (2018)	Northeast Agricultural University, University Medical Center Utrecht, University of Groningen, University Medical Center Groningen	China, Netherlands, Norway	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	4
UT Southwestern Medical Center	United States	—	3
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	3
Guangzhou Medical University	China	SCImago #761 · THE 801–1000	3
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	2
University of Oslo	Norway	SCImago #425 · THE =113 · QS =119	2
Centre de Recherche des Cordeliers	France	SCImago #565	2
Telethon Institute of Genetics and Medicine (TIGEM)	Italy	SCImago #464	2
University of Groningen, University Medical Center Groningen	Netherlands	—	2
Life Sciences Institute, University of Michigan	United States	—	2
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	2
University of Texas Southwestern Medical Center	United States	SCImago #562	2
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	2
Osaka University	Japan	SCImago #546 · QS 91	2
University of South Australia	Australia	SCImago #2033	1

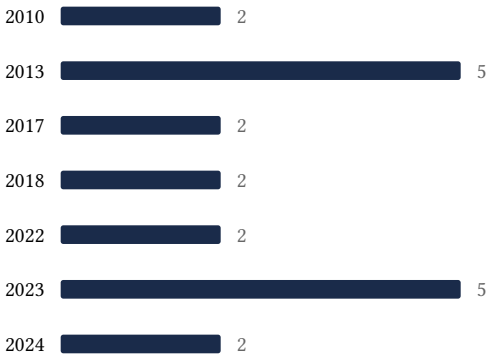
Geographic distribution of citing authors

Country	Citing papers
United States	11
United Kingdom	7
China	7
Australia	3
Germany	3
Canada	3
Japan	2
Italy	2
Norway	2
Netherlands	2
Austria	2
France	2

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	Trehalose, a Novel mTOR-independent Autophagy Enhancer, Accelerates the Clearance of Mutant Huntingtin and Alpha-Synuclein	12	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Guidelines for the use and interpretation of assays for monitoring autophagy	4	Dhanasar — Prong 2 (well-positioned)