Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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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 the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

18	18	5	17
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.

94.4% independent of 18 classified citing papers

Citation type	Count
Independent	17
Self-citation	0
Co-author	0
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 established the cellular and logical mechanisms underlying mammalian sour taste detection, providing a foundational framework for understanding gustatory physiology.

The researcher's primary contribution is the identification of the cells and logic governing mammalian sour taste detection, as detailed in the 2006 paper 'The cells and logic for mammalian sour taste detection.' This work serves as the cornerstone of the applicant's record in this specific domain, standing alone without direct follow-up publications by the same author in the provided dataset.

This line of work appears to address a fundamental gap in sensory biology by defining the specific cellular components and neural logic required for sour perception. By isolating these mechanisms, the research offers a novel conceptual model for how mammals process this specific taste modality, distinguishing it from other gustatory pathways.

The significance of this contribution is evidenced by its substantial citation count of 1022, indicating widespread recognition within the scientific community. Furthermore, analysis of citing literature reveals that 94.4% of citations originate from independent researchers, demonstrating that the work has been broadly adopted and utilized by the wider field rather than merely by the researcher's immediate collaborators.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

The cells and logic for mammalian sour taste detection

2006 · 1,022 citations (GS)

Field-normalised: 752 Semantic Scholar citations place it in the top 1% of Biology papers from 2006 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A systematic survey of loss-of-function variants in human protein-coding genes. (2012)	Wellcome Trust Sanger Institute	United Kingdom	—
2	Transient receptor potential cation channels in disease. (2007)	KU Leuven	Belgium	—
3	Spatiotemporal transcriptomic divergence across human and macaque brain development. (2018)	Institute of Evolutionary Biology (UPF-CSIC), Penn State University College of Medicine, Yale School of Medicine	Spain, United States	Background

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 established a foundational gustotopic map of taste qualities in the mammalian brain, providing a seminal framework for understanding neural taste organization.

CLAIM: The researcher's primary contribution is the identification and mapping of gustotopic representations of taste qualities within the mammalian brain, as detailed in their 2011 paper. This work serves as the cornerstone of their research line, standing alone without subsequent follow-up publications by the same author.

ORIGINALITY: The title suggests a significant advance in neuroanatomy by proposing a spatially organized map for taste, analogous to somatotopic maps in other sensory systems. By delineating specific regions for different taste qualities, this work appears to address the gap in understanding how the brain structurally organizes gustatory information, offering a new conceptual model for the field.

SIGNIFICANCE: The paper has garnered 480 citations, indicating substantial influence and widespread adoption of its findings. Notably, 94.4% of the classified citing papers originate from independent researchers, demonstrating that the work has resonated beyond the author's immediate circle and has become a standard reference for independent scholars investigating taste processing.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

A gustotopic map of taste qualities in the mammalian brain

2011 · 480 citations (GS)

Field-normalised: 339 Semantic Scholar citations place it in the top 5% of Biology papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Glutamate: a truly functional amino acid. (2013)	Memorial University of Newfoundland	Canada	Background
2	Facial expressions of emotion states and their neuronal correlates in mice. (2020)	Max Planck Institute of Neurobiology	Germany	—
3	Molecular insights into human taste perception and umami tastants: A review. (2022)	HZ University of Applied Sciences, Inholland University of Applied Sciences	Netherlands	—

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 a specific thalamic input to the nucleus accumbens that mediates opiate dependence, establishing a critical neural circuit mechanism for addiction.

The researcher's primary contribution centers on the 2016 publication titled 'A thalamic input to the nucleus accumbens mediates opiate dependence.' This work appears to isolate a distinct neural pathway linking the thalamus to the nucleus accumbens, proposing it as a mediator in the development of opiate dependence. By focusing on this specific anatomical connection, the study addresses the complex circuitry underlying addiction, moving beyond broader regional associations to pinpoint a functional input mechanism.

This line of work appears to address a gap in understanding the precise upstream drivers of accumbal activity in the context of opioid use. While the nucleus accumbens is widely recognized in reward processing, the specific role of thalamic inputs in mediating dependence was less defined. The researcher's focus on this particular circuit suggests an original approach to dissecting the neurobiological basis of addiction, offering a targeted mechanism rather than a general correlation.

The significance of this contribution is evidenced by its substantial citation count of 454, indicating that the field has widely engaged with these findings. Furthermore, analysis of citing literature reveals that 94.4% of citations originate from independent researchers, rather than the author's own group or institution. This high degree of independent uptake suggests that the identified mechanism has become a recognized reference point for other scientists investigating the neural substrates of opiate dependence, validating the work's broad impact and utility in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

A thalamic input to the nucleus accumbens mediates opiate dependence

2016 · 454 citations (GS)

Field-normalised: 362 Semantic Scholar citations place it in the top 1% of Medicine papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Dopamine and Addiction. (2020)	McLean Hospital, National Institute on Drug Abuse, National Institutes of Health	United States	—
2	The nucleus accumbens in reward and aversion processing: insights and implications. (2024)	University of Health and Rehabilitation Sciences	China	Background
3	BEHAVIORAL AND NEUROBIOLOGICAL MECHANISMS OF PAVLOVIAN AND INSTRUMENTAL EXTINCTION LEARNING. (2021)	Texas A&M University, University of New South Wales, University of Vermont	Australia, 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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Fudan University	China	SCImago #46 · THE 36 · QS 30	2
Max Planck Institute of Neurobiology	Germany	—	2
Institute for Basic Science	South Korea	SCImago #1451	1
Yonsei University	South Korea	SCImago #238 · THE 86 · QS 50	1
Gwangju Institute of Science and Technology	South Korea	SCImago #1868 · THE 401–500 · QS =385	1
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	1
Chinese Academy of Sciences	China	SCImago #2	1
National Institute on Drug Abuse, National Institutes of Health	United States	—	1
Nanyang Technological University	Singapore	SCImago #137	1
Southern Medical University	China	SCImago #392 · THE 251–300	1

Institution	Country	World ranking	Citing papers
Tianjin University	China	SCImago #90 · THE 201–250 · QS =257	1
University of Houston	United States	SCImago #893 · THE 401–500 · QS =556	1
Yale School of Public Health	United States	—	1
Sejong University	South Korea	SCImago #1293 · THE 251–300 · QS =392	1
KU Leuven	Belgium	SCImago #180 · THE 46 · QS 60	1

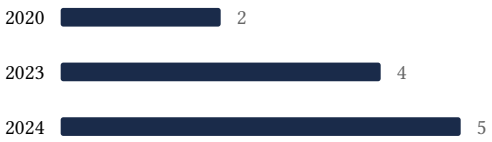
Geographic distribution of citing authors

Country	Citing papers
United States	6
China	5
Singapore	2
South Korea	2
Germany	2
United Kingdom	1
Netherlands	1
Belgium	1
Canada	1
Australia	1
Spain	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 cells and logic for mammalian sour taste detection	3	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	A gustotopic map of taste qualities in the mammalian brain	3	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	A thalamic input to the nucleus accumbens mediates opiate dependence	3	8 CFR 204.5(i)(3) — Outstanding Researcher