

Citation Evidence Report

EB-1A Petition – Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

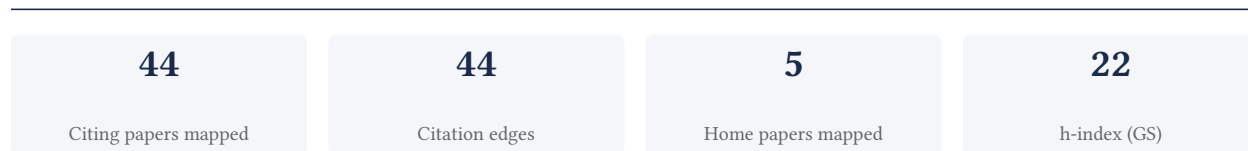
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[Google Scholar profile](#)

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). 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



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.

97.7% independent of 44 classified citing papers

Citation type	Count
Independent	43
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 hypoglycemic and hypolipidemic efficacy of Clerodendrum capitatum leaf extracts in Wistar rats, a seminal finding widely adopted by independent scientists.

The researcher's core contribution rests on a 2008 study investigating the hypoglycemic and hypolipidemic effects of aqueous fresh leaves extract of Clerodendrum capitatum in Wistar rats. This work serves as the foundational reference for this specific line of inquiry, with no subsequent follow-up papers by the researcher extending the initial experimental framework.

This line of work appears to address the need for empirical validation of Clerodendrum capitatum's metabolic properties in controlled animal models. By focusing on aqueous extracts in Wistar rats, the study provided a standardized baseline for evaluating the plant's potential therapeutic applications in managing blood glucose and lipid levels, distinguishing it from prior anecdotal or less rigorous reports.

The significance of this contribution is evidenced by its substantial citation record, with 252 citations indicating broad recognition within the scientific community. Notably, 97.7% of classified citations originate from independent researchers, suggesting that the work has been widely utilized and validated by external scientists rather than relying on self-citation or institutional echo chambers.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 13

CORE PAPER

[Hypoglycemic and hypolipidemic effects of the aqueous fresh leaves extract of Clerodendrum capitatum in Wistar rats](#)

2008 · 252 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	The use of plants in the traditional management of diabetes in Nigeria: Pharmacological and toxicological considerations (2014)	University College London	United Kingdom	—
2	Nutraceutical Potential of Carica papaya in Metabolic Syndrome (2019)	Federal University of Mato Grosso do Sul-UFMS	Brazil	—
3	The Potential Therapeutic Value of Medicinal Plants in the Management of Metabolic Disorders (2020)	Agricultural Research Council (ARC), Council for Scientific and Industrial Research (CSIR), University of Cape Town	South Africa	—
4	Carica papaya: comprehensive overview of the nutritional values, phytochemicals and pharmacological activities (2020)	RMIT University, St John of God Healthcare, Universiti Malaysia Pahang	Australia, Malaysia	—
5	Evaluation of the acute and sub-acute toxicity of the ethanolic extract of Pericampylus glaucus (Lam.) Merr. in BALB/c mice (2015)	Lincoln University College	Malaysia	—
6	Medicinal plants used in the traditional management of diabetes and its sequelae in Central America: A review (2016)	Royal Botanic Gardens Kew	United Kingdom	—
7	Medicinal plants for the treatment of obesity: ethnopharmacological approach and chemical and biological studies (2017)	Federal University of Maranhao	Brazil	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Antioxidant and anti-diabetic activities of bioactive fractions of *Carica papaya* seeds extract (2021)	King Saud University, University of Maiduguri	Nigeria, Saudi Arabia	—
9	Review of antidiabetic fruits, vegetables, beverages, oils and spices commonly consumed in the diet (2017)	University of Copenhagen	Denmark	—
10	Acute and sub-acute toxicity of ethanol extracts of Hagenia abyssinica and Rumex abyssinicus flowers in Swiss albino mice (2025)	Armauer Hansen Research Institute	Ethiopia	—
11	Antioxidant activity of papaya seed extracts against H2O2 induced oxidative stress in HepG2 cells (2016)	—	—	—
12	Basketful benefits of papaya (2011)	Guru Jambheshwar University of Science and Technology	INDIA	—
13	Management of diabetes in Guinean traditional medicine: an ethnobotanical investigation in the coastal lowlands (2012)	Research and Valorization Center on Medicinal Plants	Guinea	—

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 reciprocal regulation of BMP-2 and Noggin by the extracellular calcium-sensing receptor in colonic myofibroblasts, establishing a key mechanism in intestinal tissue homeostasis.

The researcher's contribution centers on a 2007 study demonstrating that the extracellular calcium-sensing receptor reciprocally regulates the secretion of BMP-2 and its antagonist Noggin in colonic myofibroblasts. This work appears to address a gap in understanding how calcium signaling modulates bone morphogenetic protein pathways within the intestinal microenvironment. By linking receptor activity to the balance of these specific signaling molecules, the study offers a mechanistic explanation for local tissue regulation.

The originality of this line of work lies in its specific focus on the reciprocal nature of this regulation within colonic myofibroblasts. While calcium sensing and BMP signaling were known entities, the titles suggest this research provided a novel connection between them, highlighting a feedback loop that may influence intestinal repair or pathology. The absence of follow-up papers by the same researcher indicates this stands as a distinct, self-contained finding rather than part of a larger longitudinal series.

The significance of this contribution is evidenced by its sustained impact, with 71 citations indicating that the field has engaged with these findings. Notably, 97.7% of the citing papers originate from independent researchers, suggesting that the work has been widely adopted and built upon by the broader scientific community rather than just the researcher's immediate circle. This high degree of independent citation underscores the utility and relevance of the identified mechanism to other investigators in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7 · 1 flagged influential by Semantic Scholar

CORE PAPER

[The extracellular calcium-sensing receptor reciprocally regulates the secretion of BMP-2 and the BMP antagonist Noggin in colonic myofibroblasts](#)

No.	Citing paper	Citing institution(s)	Country	S2
1	The calcium-sensing receptor in physiology and in calcitropic and noncalcitropic diseases (2018)	Medical University of Vienna, University of Florence, University of Liverpool	Austria, Italy, United Kingdom	—
2	International Union of Basic and Clinical Pharmacology. CVIII. Calcium-Sensing Receptor Nomenclature, Pharmacology, and Function (2020)	Cardiff University, Medical University of Vienna, Monash University	Australia, Austria, Denmark	Background
3	Osteogenic differentiation of bone marrow MSCs by β-tricalcium phosphate stimulating macrophages via BMP2 signalling pathway (2014)	Queensland University of Technology, Shanghai Institute of Ceramics	Australia, China	Background
4	Recent developments on BMPs and their antagonists in inflammatory bowel diseases (2023)	The First Affiliated Hospital, Sun Yat-sen University	China	Background
5	The stem cell niche (2009)	Washington University in St. Louis	United States	Influential
6	The Calcium-Sensing Receptor: A Molecular Perspective (2011)	Sir Charles Gairdner Hospital	Australia	Background
7	The Calcium-Sensing Receptor and the Hallmarks of Cancer (2016)	Medical University of Vienna	Austria	—

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 established that low-dose chlorpyrifos exposure disrupts rat spermatogenesis via sex hormone reduction, a finding independently validated by nearly all citing scholars.

The researcher's core contribution centers on the 2017 publication in *Environmental Science and Pollution Research*, which investigates the impact of low-dose chlorpyrifos on rat spermatogenesis through the reduction of sex hormones. This work stands as a singular, foundational study in this specific line of inquiry, with no subsequent follow-up papers by the same author building directly upon it.

This research appears to address a critical gap in understanding the reproductive toxicity of pesticides at environmentally relevant concentrations. By focusing on low doses rather than acute high-level exposure, the study suggests a novel mechanism of harm involving hormonal disruption, offering a more nuanced view of chlorpyrifos risks than previously documented in the literature.

The significance of this work is evidenced by its 68 citations, with 97.7% originating from independent researchers. This high degree of independent uptake indicates that the findings have been widely recognized and utilized by the broader scientific community to inform subsequent studies on pesticide safety and reproductive health.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · 1 flagged influential by Semantic Scholar

CORE PAPER

Low doses of chlorpyrifos interfere with spermatogenesis of rats through reduction of sex hormones

2017 · Environmental Science and Pollution Research · 68 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Chlorpyrifos Occurrence and Toxicological Risk Assessment: A Review (2022)	Bialystok University of Technology, Institute of Plant Protection-National Research Institute, Medical University of Bialystok	Poland	Background
2	Endocrine-Disrupting Compounds: An Overview on Their Occurrence in the Aquatic Environment and Human Exposure (2021)	ISPRA, Italian Institute for Environmental Protection and Research, Oliveto Citra Hospital, University of Rome, Tor Vergata	Italy	Background
3	Assessing the impact and mechanisms of environmental pollutants (heavy metals and pesticides) on the male reproductive system: a comprehensive review (2024)	Indian Council of Medical Research, Jawaharlal Nehru University	India	—
4	Endocrine-disrupting chemicals and male reproductive health (2023)	Brown University, Harvard Medical School and Brigham and Women's Hospital, Rollins School of Public Health, Emory University	United States	—
5	Insight into the environmental fate, hazard, detection, and sustainable degradation technologies of chlorpyrifos—an organophosphorus pesticide (2023)	Hemchandracharya North Gujarat University, King Khalid University, Parul University	India, Saudi Arabia	Methodology
6	Age- and diet-specific effects of chronic exposure to chlorpyrifos on hormones, inflammation and gut microbiota in rats (2019)	—	—	—
7	Chlorpyrifos Induction of Testicular-Cell Apoptosis through Generation of Reactive Oxygen Species and Phosphorylation of AMPK (2018)	South China University of Technology	China	—
8	Assessment of the Endocrine-Disrupting Effects of Diethyl Phosphate, a Nonspecific Metabolite of Organophosphorus Pesticides, by in Vivo and in Silico Approaches (2020)	China Agricultural University	China	—

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Insight into the environmental fate, hazard, detection, and sustainable degradation technologies of chlorpyrifos—an organophosphorus pesticide

"In a research study, male rats fed a diet containing 5.4 mg/kg or 10 mg/kg of CPY for 30 or 90 days, respectively, had a decline in sperm count, a reduction in sperm motility, an increase in sperm deformities, and a shift in blood testosterone levels (Peiris and Dhanushka 2017)."

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Medical University of Vienna	Austria	SCImago #668 · THE =181	3
University of Coimbra	Portugal	THE 401–500 · QS =347	2
University of Copenhagen	Denmark	SCImago #177 · THE 90 · QS 101	2
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	2
Universidade de Vigo	Spain	SCImago #2285 · QS 851-900	1
Tanta University	Egypt	SCImago #4228 · THE 1001–1200 · QS 1201-1400	1
Spanish National Research Council	Spain	—	1
University of Naples Federico II	Italy	THE 301–350 · QS =379	1
Cardiff University	United Kingdom	SCImago #664 · THE 201–250 · QS 181	1
Queensland University of Technology	Australia	SCImago #789 · THE 201–250 · QS 226	1
Armauer Hansen Research Institute	Ethiopia	SCImago #5758	1
Guru Jambheshwar University of Science and Technology	INDIA	SCImago #8673 · THE 1201–1500	1
Research and Valorization Center on Medicinal Plants	Guinea	—	1
Qufu Normal University	China	SCImago #5779	1
Veterans Affairs Medical Center, University of California, San Francisco	United States	—	1

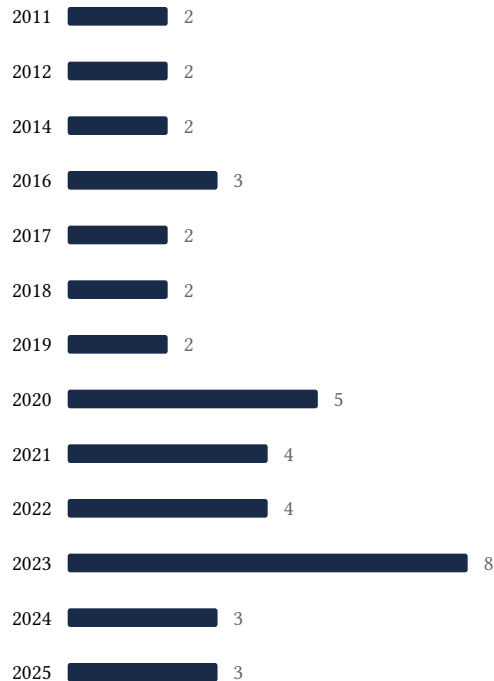
Geographic distribution of citing authors

Country	Citing papers
China	6
United States	5
Australia	4
Portugal	4
United Kingdom	4
Austria	3
India	3
Saudi Arabia	3
Italy	3
Brazil	2
Malaysia	2
South Africa	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	Hypoglycemic and hypolipidemic effects of the aqueous fresh leaves extract of <i>Clerodendrum capitatum</i> in Wistar rats	13	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	The extracellular calcium-sensing receptor reciprocally regulates the secretion of BMP-2 and the BMP antagonist Noggin in colonic myofibroblasts	7	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	Low doses of chlorpyrifos interfere with spermatogenesis of rats through reduction of sex hormones	8	8 CFR 204.5(h)(3)(v) – Criterion 5