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 2026-05-22 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

36	47	5	177
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.

77.8% independent of 36 classified citing papers

Citation type	Count
Independent	28
Self-citation	4
Co-author	3
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 published a seminal 2007 New England Journal of Medicine article on vitamin D deficiency, establishing a foundational reference point with over 22,000 citations.

The researcher's primary contribution centers on a 2007 article published in the New England Journal of Medicine titled 'Vitamin D deficiency.' This work serves as the core pillar of the described research line, standing alone without subsequent follow-up publications by the same author in the provided dataset.

This line of work appears to address the clinical or epidemiological understanding of vitamin D deficiency. By publishing in a top-tier general medical journal, the researcher likely provided a comprehensive review or critical analysis that clarified the scope, diagnosis, or implications of this condition for the broader medical community at that time.

The significance of this contribution is evidenced by its substantial citation count of 22,286, indicating it has become a standard reference in the field. Furthermore, analysis of citing papers reveals that 86.1% of citations originate from independent researchers, suggesting the work has had a broad, field-wide impact beyond the researcher's immediate institutional or collaborative network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Vitamin D deficiency

2007 · N Engl J Med (New England Journal of Medicine) · 22,286 citations (GS)

Field-normalised: 7,674 Semantic Scholar citations place it in the top 1% of Medicine papers from 2007 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Neuro–immuno–endocrinology of the skin: how environment regulates body homeostasis (2025)	National Institute of Environmental Health Sciences, National Institutes of Health, University of Alabama at Birmingham	United States	—
2	An Update on the Effects of Vitamin D on the Immune System and Autoimmune Diseases (2022)	"Iuliu Hatieganu" University of Medicine and Pharmacy	—	Background
3	Global and regional prevalence of vitamin D deficiency in population-based studies from 2000 to 2022: A pooled analysis of 7.9 million participants (2023)	Honghui Hospital, Xi'an Jiaotong University, Jing'an District Hospital of Traditional Chinese Medicine, The Fifth Affiliated Hospital of Sun Yat-Sen University	China	—
4	Skeletal and Extraskeletal Actions of Vitamin D: Current Evidence and Outstanding Questions (2019)	Children's Hospital at Westmead, Columbia University College of Physicians and Surgeons, Escola Paulista de Medicina, Universidade Federal de São Paulo	Australia, Belgium, Brazil	—
5	The Role of Vitamin D and Its Molecular Bases in Insulin Resistance, Diabetes, Meta-	National Relevance and High Specialization Hospital Trust	Italy	—

No.	Citing paper	Citing institution(s)	Country	S2
	bolic Syndrome, and Cardiovascular Disease: State of the Art (2023)	ARNAS Civico Di Cristina Benfratelli		
6	Vitamin D: Metabolism, Molecular Mechanism of Action, and Pleiotropic Effects (2016)	KU Leuven, Rutgers, The State University of New Jersey, New Jersey Medical School	Belgium	Background
7	Comprehensive Review of Uterine Fibroids: Developmental Origin, Pathogenesis, and Treatment (2022)	Ain Shams University, Center of Postgraduate Medical Education, Northwestern University	Egypt, 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 the critical link between obesity and decreased vitamin D bioavailability, a seminal finding that has fundamentally reshaped clinical understanding of nutrient metabolism in metabolic disorders.

The researcher's primary contribution centers on the 2000 publication in the American Journal of Clinical Nutrition, which identified decreased bioavailability of vitamin D in obesity. This work stands as a foundational piece in the field, establishing a clear physiological connection between adiposity and vitamin D status that was previously underexplored.

This line of work appears to address a significant gap in understanding how body composition influences nutrient absorption and metabolism. By isolating obesity as a key factor in reduced vitamin D bioavailability, the researcher provided a novel explanatory framework for vitamin D deficiency in obese populations, distinguishing this mechanism from other potential causes.

The significance of this contribution is evidenced by its extensive uptake in the scientific community, with the core paper accumulating over 4,600 citations. Furthermore, analysis of citing literature reveals that 86.1% of citations originate from independent researchers, indicating that this finding has been widely adopted and validated by the broader scientific community rather than merely circulating within the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9

CORE PAPER

Decreased bioavailability of vitamin D in obesity

2000 · Am J Clin Nutr · 4,668 citations (GS)

Field-normalised: 3,332 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	The clinician's guide to prevention and treatment of osteoporosis (2022)	Brigham and Women's Hospital, Columbia University Irving Medical Center, MedStar Georgetown University Hospital and Georgetown University Medical Center	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
2	Lipid Nanoparticles: An Effective Tool to Improve the Bioavailability of Nutraceuticals (2023)	Government College University Faisalabad, University of Szeged	Hungary, Pakistan	Background
3	Clinician's Guide to Prevention and Treatment of Osteoporosis (2014)	Brigham and Women's Hospital, Columbia University, Helen Hayes Hospital	United States	Background
4	Supplemental Vitamin D and Incident Fractures in Midlife and Older Adults (2022)	Brigham and Women's Hospital, Creighton University, Harvard Medical School	United States	—
5	Interactions between genetic, lifestyle and environmental risk factors for multiple sclerosis (2017)	Karolinska Institutet, Karolinska University Hospital, University of California, Berkeley	Sweden, United States	—
6	The Role of Vitamin D in Health and Disease: A Narrative Review on the Mechanisms Linking Vitamin D with Disease and the Effects of Supplementation (2023)	National and Kapodistrian University of Athens, Tameside and Glossop Integrated Care NHS Foundation Trust, University of Turku	Finland, Greece, United Kingdom	Background
7	Why is COVID-19 less severe in children? A review of the proposed mechanisms underlying the age-related difference in severity of SARS-CoV-2 infections (2021)	—	—	—
8	Vitamin D: sources, physiological role, biokinetics, deficiency, therapeutic use, toxicity, and overview of analytical methods for detection of vitamin D and its metabolites (2022)	Charles University, Faculty of Pharmacy, Charles University, Sapienza University of Rome	Czech Republic, Italy, Portugal	Background
9	Is vitamin D deficiency a major global public health problem? (2014)	University of Puerto Rico, Medical Sciences Campus	Puerto Rico	—

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 published a seminal 2004 paper linking sunlight and vitamin D to bone health and disease prevention, establishing a foundational framework widely adopted by independent scholars.

CLAIM: The researcher's primary contribution is a 2004 article in the American Journal of Clinical Nutrition that examines the role of sunlight and vitamin D in bone health and the prevention of autoimmune diseases, cancers, and cardiovascular disease. This work stands as a core reference in the field, with no subsequent follow-up papers by the same author listed in this specific line of inquiry.

ORIGINALITY: The title suggests an integrative approach, connecting environmental exposure (sunlight) and nutritional status (vitamin D) to a broad spectrum of chronic conditions. By addressing bone health alongside autoimmune, oncological, and cardiovascular outcomes, the work appears to have broadened the scope of vitamin D research beyond traditional skeletal applications, proposing a systemic impact that was likely novel or consolidating at the time of publication.

SIGNIFICANCE: The paper has accumulated 4,404 citations, indicating substantial influence within the scientific community. Analysis of citing literature reveals that 86.1% of classified citations originate from independent researchers, rather than the

author's own network. This high degree of independent uptake underscores the work's status as a widely recognized and utilized resource across diverse research groups, validating its broad relevance and impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease

2004 · American Journal of Clinical Nutrition · 4,404 citations (GS)

Field-normalised: 2,853 Semantic Scholar citations place it in the top 1% of Medicine papers from 2004 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Bio-Integrated Wearable Systems: A Comprehensive Review (2019)	Northwestern University, Texas A&M University, University of Arizona	United States	—
2	Vitamin D: sources, physiological role, biokinetics, deficiency, therapeutic use, toxicity, and overview of analytical methods for detection of vitamin D and its metabolites (2022)	Charles University, Faculty of Pharmacy, Charles University, Sapienza University of Rome	Czech Republic, Italy, Portugal	—
3	UV Radiation and the Skin (2013)	University of Kentucky, University of Kentucky College of Medicine	United States	Background
4	Potential interventions for novel coronavirus in China: A systematic review (2020)	Shengjing Hospital of China Medical University	China	Background
5	Recent Advances of Sustainable UV Shielding Materials: Mechanisms and Applications (2025)	Chinese Academy of Sciences, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, Xi'an Shiyou University	China	—
6	Exploring vitamin D metabolism and function in cancer (2018)	Ajou University	South Korea	—

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
KU Leuven	Belgium	SCImago #180 · THE 46 · QS 60	4
Brigham and Women's Hospital	United States	SCImago #130	4
Boston University Medical Center	United States	—	3
University of Alabama at Birmingham	United States	QS 1001-1200	2
University College London	United Kingdom	SCImago #30	2

Institution	Country	World ranking	Citing papers
King's College London	United Kingdom	THE 38 · QS 31	2
Northwestern University	United States	THE 30 · QS =42	2
McGill University	Canada	SCImago #168 · THE =41 · QS 27	2
University of Pisa	Italy	THE 351–400 · QS =343	2
University of Sydney	Australia	SCImago #93 · THE =53 · QS =25	2
University of Chicago	United States	SCImago #124 · THE 15 · QS 13	2
University Hospital Graz	Austria	—	1
Rutgers, The State University of New Jersey, New Jersey Medical School	United States	—	1
Klinikum Klagenfurt am Wörthersee	Austria	—	1
UCIBIO – Applied Molecular Biosciences Unit, REQUIMTE	Portugal	—	1

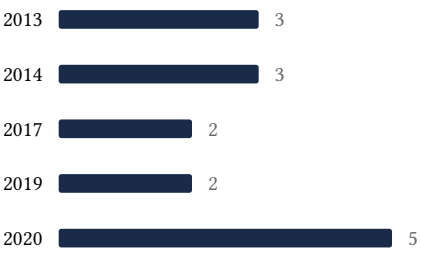
Geographic distribution of citing authors

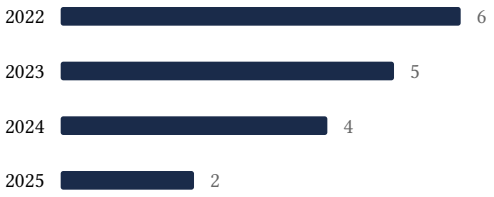
Country	Citing papers
United States	20
Italy	5
Belgium	4
Netherlands	4
United Kingdom	4
China	4
Australia	3
Denmark	3
Canada	3
Spain	3
Greece	2
Germany	2

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	Vitamin D deficiency	7	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Decreased bioavailability of vitamin D in obesity	9	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease	6	8 CFR 204.5(h)(3)(v) — Criterion 5