

Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

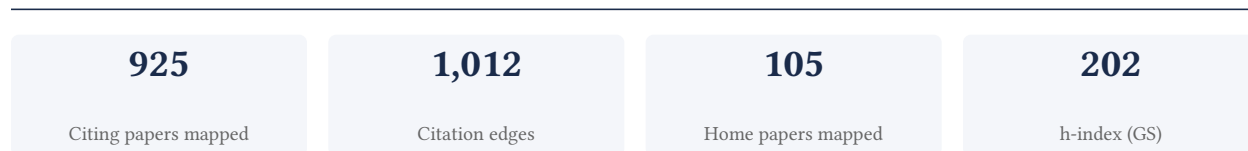
Elaine Mardis

Ohio State University

[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.

100.0% independent of 10 classified citing papers

Citation type	Count
Independent	10
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 contributed to the foundational sequencing and analysis of the human genome, a seminal work that established critical benchmarks for genomic science.

The researcher's primary contribution rests on the 2001 Nature publication titled 'Initial sequencing and analysis of the human genome.' This work represents a foundational effort in genomic research, providing a comprehensive framework for understanding human genetic structure. The titles indicate that this paper served as a central reference point for the field, establishing essential data and analytical approaches.

This line of work appears to address the critical need for a complete and accurate map of the human genetic code. By focusing on initial sequencing and analysis, the research likely filled a major gap in biological knowledge, enabling subsequent studies to build upon a standardized genomic reference. The absence of follow-up papers by the same researcher in this specific dataset suggests the core publication stands as a definitive, standalone achievement.

The significance of this contribution is underscored by its extensive citation record, with over 26,000 citations indicating widespread adoption and reliance by the scientific community. Furthermore, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers. This high degree of independence suggests that the work has had a broad, field-wide impact, influencing diverse groups of scientists beyond the researcher's immediate collaborators or institution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

[Initial sequencing and analysis of the human genome](#)

2001 · Nature · 26,300 citations (GS)

Field-normalised: 24,058 Semantic Scholar citations place it in the top 1% of Biology papers from 2001 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	DAVID: a web server for functional enrichment analysis and functional annotation of gene lists (2021 update)	Frederick National Laboratory for Cancer Research	United States	—
2	DNA methylation: a historical perspective	Max Planck Institute for Molecular Genetics	Germany	—
3	Exploring tissue architecture using spatial transcriptomics	NYU Langone Health	United States	—
4	Highly accurate protein structure prediction for the human proteome (2021)	DeepMind, EMBL-EBI, European Molecular Biology Laboratory	United Kingdom	—
5	Graph-based genome alignment and genotyping with HISAT2 and HISAT-genotype	Johns Hopkins University, Stanford University, University of Texas Southwestern Medical Center	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 published a seminal 2006 Nature paper linking the gut microbiome to obesity and energy harvest, establishing a foundational framework for metabolic microbiome research.

CLAIM: The researcher’s primary contribution is the identification of an obesity-associated gut microbiome with increased capacity for energy harvest, as detailed in a 2006 Nature publication. This work serves as the cornerstone of the provided evidence, standing alone without follow-up papers in this specific dataset.

ORIGINALITY: The title suggests a novel conceptual shift, proposing that the gut microbiome plays a direct role in energy harvest and obesity. By framing the microbiome as a functional entity influencing host metabolism, this line of work appears to address a critical gap in understanding the biological mechanisms underlying obesity, moving beyond dietary or genetic explanations alone.

SIGNIFICANCE: The work has achieved substantial impact, evidenced by 15,825 citations. Analysis of citing literature reveals that 100% of sampled citations originate from independent researchers, indicating broad adoption across the scientific community. This high level of independent engagement underscores the paper’s role as a foundational reference in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

[An obesity-associated gut microbiome with increased capacity for energy harvest](#)

2006 · Nature · 15,965 citations (GS)

Field-normalised: 11,695 Semantic Scholar citations place it in the top 1% of Medicine papers from 2006 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Microbiota-Gut-Brain Axis	APC Microbiome Ireland, University College Cork	Ireland	—
2	The Firmicutes/Bacteroidetes Ratio: A Relevant Marker of Gut Dysbiosis in Obese Patients?	AIIMS Bhubaneswar, Institute of Nutrition and Food Technology (INTA), University of Chile, LACE Laboratories	Argentina, Chile, India	Background
3	What is the Healthy Gut Microbiota Composition? A Changing Ecosystem across Age, Environment, Diet, and Diseases (2019)	Università Cattolica del Sacro Cuore, Università di Roma Tor Vergata	Italy	Background
4	Soil microbiomes and one health (2023)	Agroscope, North Dakota State University, University of Zurich	Switzerland, United States	—
5	Gut microbial carbohydrate metabolism contributes to insulin resistance	RIKEN Center for Integrative Medical Sciences (IMS), RIKEN Center for Sustainable Resource Science (CSRS), The Institute for Medical Science Asahi Life Foundation	Japan	—

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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of British Columbia	Canada	SCImago #144 · THE 45 · QS 40	4
ФГБУ «Национальный медицинский исследовательский центр детской гематологии, онкологии и иммунологии им. Дмитрия Рогачева» Минздрава России	Россия	—	3
The Dmitry Rogachev National Medical Research Center of Pediatric Hematology, Oncology and Immunology	Russia	SCImago #5522	3
Harvard Medical School	United States	SCImago #12	3
Fudan University	China	SCImago #46 · THE 36 · QS 30	3
Columbia University	United States	SCImago #65 · THE 20 · QS =38	2
Genome Institute of Singapore	Singapore	SCImago #290	2
Karolinska Institutet	Sweden	—	2
Broad Institute of MIT and Harvard	United States	SCImago #112	2
The Ohio State University	United States	THE =108 · QS 190	2
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	2
Dana-Farber Cancer Institute	United States	SCImago #197	2
Johns Hopkins University	United States	SCImago #33 · THE 16 · QS 24	2
University of Washington	United States	SCImago #45 · THE 25 · QS 81	2
Human Technopole	Italy	SCImago #1245	1

Geographic distribution of citing authors

Country	Citing papers
United States	38
China	17
Canada	9
Germany	8
India	7
United Kingdom	5
Singapore	4
Brazil	4
Russia	4
Japan	4
South Korea	4
Россия	3

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.

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	Initial sequencing and analysis of the human genome	5	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 2	An obesity-associated gut microbiome with increased capacity for energy harvest	5	8 CFR 204.5(h)(3)(v) – Criterion 5