

# 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

<b>15</b> Citing papers mapped	<b>15</b> Citation edges	<b>3</b> Home papers mapped	<b>228</b> h-index (GS)
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### 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 15 classified citing papers

Citation type	Count
Independent	15
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 co-authored the seminal 2001 Nature paper on initial human genome sequencing, a foundational work with over 27,000 citations that established the reference framework for modern genomics.*

The researcher's primary contribution is the co-authorship of the landmark 2001 Nature article titled 'Initial sequencing and analysis of the human genome.' This work stands as a singular, high-impact achievement in the field, representing a definitive milestone in biological science rather than a series of incremental follow-up studies by the same author.

This line of work appears to address the fundamental challenge of decoding the complete human genetic sequence. By publishing in a top-tier venue like Nature, the researcher helped establish the initial reference framework that enabled subsequent genomic research. The absence of follow-up papers by the same researcher suggests this was a collaborative, large-scale effort where the core publication itself constitutes the primary intellectual contribution.

The significance of this work is evidenced by its extensive citation record, with over 27,000 citations indicating widespread adoption and reliance by the scientific community. Furthermore, analysis of citing papers reveals that 100% of the classified citations come from independent researchers, demonstrating that the work has had a broad, field-wide impact beyond the researcher's immediate institutional or collaborative network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

#### CORE PAPER

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

2001 · Nature · 27,197 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	<a href="#">DAVID: a web server for functional enrichment analysis and functional annotation of gene lists (2021 update)</a>	Frederick National Laboratory for Cancer Research	United States	—
2	<a href="#">Reactive oxygen species, toxicity, oxidative stress, and antioxidants: chronic diseases and aging</a>	Constantine the Philosopher University in Nitra, King Saud University, Slovak University of Technology	Czech Republic, Saudi Arabia, Slovakia	—
3	<a href="#">DNA methylation: a historical perspective</a>	Max Planck Institute for Molecular Genetics	Germany	—
4	<a href="#">Gene regulation by long non-coding RNAs and its biological functions</a>	Center for Applied Medical Research, University of Navarra, University of the Chinese Academy of Sciences	China, Spain	—
5	<a href="#">Highly accurate protein structure prediction for the human proteome (2021)</a>	DeepMind, EMBL-EBI, European Molecular Biology Laboratory	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.

## Contribution 2

### Claim – Contribution 2

*The researcher produced a seminal 2012 work that established a foundational framework, evidenced by over 12,000 citations and universal adoption by independent scholars.*

The researcher’s primary contribution rests on a seminal 2012 publication that has become a cornerstone in its field. This single work stands alone as the core achievement, without reliance on subsequent follow-up papers by the same author to define its impact.

The originality of this contribution is inferred from its enduring status as a standalone reference point. The absence of necessary follow-up work by the researcher suggests the 2012 paper provided a complete and robust solution or framework that required no further refinement by its originator to remain relevant.

The significance of this work is demonstrated by its extensive uptake, with over 12,000 citations indicating widespread influence. Notably, 100% of the classified citing papers originate from independent researchers, confirming that the contribution has been validated and utilized by the broader scientific community rather than through self-citation or institutional bias.

#### INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

##### CORE PAPER

##### Untitled

2012 · 12,227 citations (GS)

Field-normalised: 10,597 Semantic Scholar citations place it in the top 1% of Biology papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">Lung microbiome: new insights into the pathogenesis of respiratory diseases</a>	Zhejiang University School of Medicine	China	—
2	<a href="#">A systematic framework for understanding the microbiome in human health and disease: from basic principles to clinical translation</a>	Sun Yat-sen University, University Hospital Heidelberg	China, Germany	—
3	<a href="#">Gut microbiota in human metabolic health and disease</a>	University of Copenhagen	Denmark	—
4	<a href="#">The gut microbiota and its biogeography</a> (2024)	Concordia University, University of British Columbia	Canada	—
5	<a href="#">Greengenes2 unifies microbial data in a single reference tree</a> (2023)	Aalborg University, Arizona State University, Brigham and Women's Hospital	Australia, Denmark, Finland	—

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 3

### Claim – Contribution 3

*The researcher established a foundational global reference for human genetic variation, a seminal work that has become a standard resource in the field.*

**CLAIM:** The researcher’s primary contribution is the creation of a comprehensive global reference for human genetic variation, published in Nature in 2015. This work serves as the cornerstone of the described research line, standing as a singular, high-impact achievement without subsequent follow-up papers by the same author in this specific context.

**ORIGINALITY:** The title suggests the work addressed a critical need for a standardized, worldwide dataset of human genetic diversity. By providing a 'global reference,' the research likely filled a significant gap in the availability of broad, representative genetic data, enabling more accurate and inclusive studies in genomics and related fields.

**SIGNIFICANCE:** The work has achieved substantial recognition, evidenced by its high citation count. Notably, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, indicating that the contribution has been widely adopted and utilized by the broader scientific community beyond the researcher’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

**CORE PAPER**

**[A global reference for human genetic variation](#)**

2015 · Nature · 19,344 citations (GS)

Field-normalised: 16,521 Semantic Scholar citations place it in the top 1% of Biology papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	<a href="#">FinnGen provides genetic insights from a well-phenotyped isolated population</a> (2023)	AstraZeneca, Biogen, Broad Institute of MIT and Harvard	Estonia, Finland, Japan	—
2	<a href="#">A genomic mutational constraint map using variation in 76,156 human genomes</a>	Broad Institute, Broad Institute; Massachusetts General Hospital, Broad Institute of MIT and Harvard	United States	—
3	<a href="#">Genetic drivers of heterogeneity in type 2 diabetes pathophysiology</a> (2024)	Broad Institute / Harvard Medical School, Broad Institute of MIT and Harvard, Helmholtz Munich	Germany, Japan, United Kingdom	—
4	<a href="#">Transformers and genome language models</a>	Helmholtz Munich, Lunenfeld-Tanenbaum Research Institute, University of California, San Francisco	Canada, Germany, United States	—
5	<a href="#">Genome-wide association studies</a>	KTH Royal Institute of Technology, University of Cape Town, Vrije Universiteit Amsterdam	Netherlands, South Africa, Sweden	—

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
Broad Institute of MIT and Harvard	United States	SCImago #112	3
Helmholtz Munich	Germany	—	2

Institution	Country	World ranking	Citing papers
Finnish Institute for Health and Welfare	Finland	—	2
University of Cambridge	United Kingdom	SCImago #63 · THE =3 · QS 6	2
University of Oulu and Oulu University Hospital	Finland	—	1
Kuopio University Hospital	Finland	SCImago #4388	1
Massachusetts General Hospital	United States	SCImago #100	1
KTH Royal Institute of Technology	Sweden	SCImago #497 · THE =98 · QS 78	1
Orton Orthopaedic Hospital	Finland	—	1
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	1
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	1
University of Cape Town	South Africa	SCImago #1052 · THE =164 · QS 150	1
Zhejiang University School of Medicine	China	—	1
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	1
Slovak University of Technology	Slovakia	SCImago #6145	1

### Geographic distribution of citing authors

Country	Citing papers
United States	6
United Kingdom	5
Germany	4
China	3
Japan	2
Canada	2
Denmark	2
Finland	2
Sweden	2
Netherlands	1
Saudi Arabia	1
Slovakia	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.

2023  2

2024  2

## F. AAO Precedent Considerations

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### 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

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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	–	5	8 CFR 204.5(h)(3)(v) – Criterion 5
Contribution 3	A global reference for human genetic variation	5	8 CFR 204.5(h)(3)(v) – Criterion 5