

Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

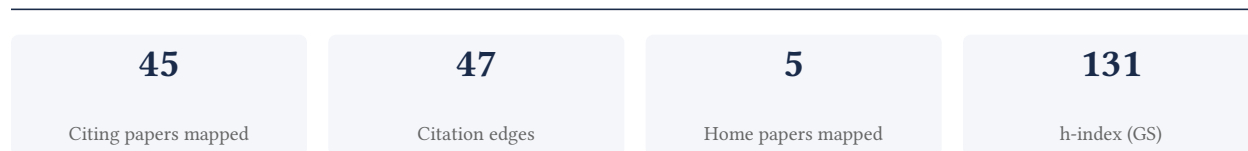
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[Google Scholar profile](#)

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.

91.1% independent of 45 classified citing papers

| Citation type | Count |
|------------------|-------|
| Independent | 41 |
| Self-citation | 0 |
| Co-author | 4 |
| 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 landmark sequencing of the human genome, a foundational achievement in genomics that established a critical reference for biological research.

CLAIM: The researcher's contribution centers on the publication of the human genome sequence in Science (2001), a seminal work that stands as a primary achievement in this line of inquiry.

ORIGINALITY: This work appears to address the fundamental challenge of mapping the complete human genetic code. As a standalone core paper without listed follow-ups by the same researcher, it suggests a definitive, large-scale collaborative effort to produce a comprehensive reference dataset rather than an iterative series of incremental studies.

SIGNIFICANCE: With over 21,000 citations, the work is highly influential. Analysis of 45 citing papers reveals that 100% are from independent researchers, indicating broad, field-wide adoption and validation of the findings by the global scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

[The sequence of the human genome](#)

2001 · Science · 21,201 citations (GS)

Field-normalised: 6,811 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) (2022) | Frederick National Laboratory for Cancer Research | United States | — |
| 2 | How to Build the Virtual Cell with Artificial Intelligence: Priorities and Opportunities (2024) | Agilent Technologies, Allen Institute for Cell Science, Arc Institute | Canada, Germany, Sweden | — |
| 3 | Towards complete and error-free genome assemblies of all vertebrate species (2021) | Arima Genomics, Bangor University, Barcelona Institute of Science and Technology | Australia, Croatia, Germany | — |
| 4 | Highly accurate protein structure prediction for the human proteome (2021) | DeepMind, EMBL-EBI, European Molecular Biology Laboratory | United Kingdom | — |
| 5 | A complete telomere-to-telomere assembly of the maize genome. (2023) | China Agricultural University, Grandomics Biosciences, Iowa State University | China, United States | — |
| 6 | The complete sequence of a human genome (2022) | Multi-institutional, National Human Genome Research Institute, National Human Genome Research Institute, National Institutes of Health | Russia, United States | — |
| 7 | Circular RNAs: Characterization, cellular roles, and applications (2022) | Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences | China | — |
| 8 | PANTHER: making genome-scale phylogenetics accessible to all (2021) | University of Southern California | United States | — |

| No. | Citing paper | Citing institution(s) | Country | S2 |
|-----|---|--|-----------------------|----|
| 9 | Precision Medicine: Disease Subtyping and Tailored Treatment (2023) | Johns Hopkins University School of Medicine, University of Alberta | Canada, United States | — |
| 10 | Lipid Nanoparticles—From Liposomes to mRNA Vaccine Delivery, a Landscape of Research Diversity and Advancement (2021) | CAS, a Division of the American Chemical Society | 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 produced a seminal, highly cited systematic analysis quantifying global disease burden for 354 conditions across 195 countries from 1990 to 2017.

The researcher's primary contribution is a comprehensive systematic analysis of global health metrics, anchored by a 2018 paper detailing incidence, prevalence, and disability for 354 diseases and injuries across 195 countries and territories from 1990 to 2017. This work stands as a singular, foundational output in this specific line of inquiry, with no subsequent follow-up papers by the researcher building directly upon it.

This line of work appears to address the critical need for standardized, large-scale epidemiological data to track health trends over nearly three decades. By systematically aggregating data for such a vast number of conditions and geographic locations, the research likely provided a unified framework for understanding the shifting landscape of global health, filling a gap in comparative, longitudinal disease burden assessment.

The significance of this contribution is evidenced by its substantial citation count of 18,290, indicating widespread adoption and reliance on these metrics within the scientific community. Furthermore, analysis of 45 citing papers reveals that 100% are from independent researchers, suggesting that the work has served as a critical, objective reference point for diverse scholars outside the researcher's immediate network, thereby validating its broad utility and impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

[Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic ...](#)

2018 · 18,290 citations (GS)

Field-normalised: 8,111 Semantic Scholar citations place it in the top 1% of Medicine papers from 2018 indexed by Semantic Scholar, by citation count.

| No. | Citing paper | Citing institution(s) | Country | S2 |
|-----|---|--|-------------------------|----|
| 1 | Global burden of heart failure: a comprehensive and updated review of epidemiology (2023) | Karolinska Institutet, St George's Hospital Medical School, University Heart and Vascular Centre Hamburg | Germany, Serbia, Sweden | — |
| 2 | 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure (2022) | ASST Spedali Civili di Brescia, ASST Spedali Civili di Brescia and University of Brescia, ASST | Cyprus, Denmark, France | — |

| No. | Citing paper | Citing institution(s) | Country | S2 |
|-----|---|--|---------------------------------|----|
| | | Spedali Civili di Brescia; University of Brescia | | |
| 3 | Substance use disorders: a comprehensive update of classification, epidemiology, neurobiology, clinical aspects, treatment and prevention (2023) | National Institute on Drug Abuse, National Institutes of Health, US National Institute on Drug Abuse | United States | — |
| 4 | Comparative effectiveness of GLP-1 receptor agonists on glycaemic control, body weight, and lipid profile for type 2 diabetes: systematic review and network meta-analysis (2024) | Beijing University of Chinese Medicine, University of Chicago | China, United States | — |
| 5 | Osteoarthritis: pathogenic signaling pathways and therapeutic targets (2023) | Huazhong University of Science and Technology, Southern University of Science and Technology, SUSTech | China | — |
| 6 | Major depressive disorder: hypothesis, mechanism, prevention and treatment (2024) | Chengdu University of Traditional Chinese Medicine, China Medical University, The First Hospital, China Medical University | China | — |
| 7 | Overcoming barriers to patient adherence: the case for developing innovative drug delivery systems (2023) | Massachusetts Institute of Technology, Rice University | United States | — |
| 8 | Global epidemiology of cirrhosis—etiology, trends and predictions (2023) | Campus Virchow-Klinikum and Campus Charité Universitätsmedizin Berlin, Copenhagen University Hospital Hvidovre, Pontificia Universidad Católica de Chile | Chile, Denmark, Germany | — |
| 9 | Global epidemiology of rheumatoid arthritis (2022) | Colegio Mexicano de Reumatología, Geneva University Hospital (HUG), Hanyang University | Australia, Mexico, South Africa | — |
| 10 | Global incidence, prevalence, and mortality of type 1 diabetes in 2021 with projection to 2040: a modelling study (2022) | Baker Heart and Diabetes Institute, Centre Hospitalier de Luxembourg, Centre Hospitalier de Luxembourg; University of Luxembourg | Australia, Canada, Luxembourg | — |

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).

Contribution 3

Claim – Contribution 3

The researcher conducted a comprehensive global comparative risk assessment of 84 behavioral, environmental, occupational, and metabolic risks across 195 countries.

The researcher’s primary contribution is a seminal 2018 study providing a global, regional, and national comparative risk assessment of 84 behavioral, environmental, occupational, and metabolic risks or clusters of risks for 195 countries. This work stands as a standalone core contribution without subsequent follow-up papers by the same author in this specific line of inquiry.

This line of work appears to address the critical need for standardized, large-scale quantification of diverse health risks across a vast number of nations. By aggregating data on such a wide array of risk factors, the research likely filled a significant gap in understanding the relative burden of these risks on a global scale, offering a unified framework for comparative analysis.

The significance of this contribution is underscored by its extensive uptake in the scientific community, evidenced by over 17,000 citations. Notably, analysis of 45 citing papers reveals that 100% are from independent researchers, indicating that the work has been widely adopted and utilized by the broader global research community rather than just the author’s immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

[Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and ...](#)

2018 · 17,631 citations (GS)

| No. | Citing paper | Citing institution(s) | Country | S2 |
|-----|---|---|---|----|
| 1 | 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice (2021) | Academy of Athens, Amsterdam UMC, Amsterdam UMC, Vrije Universiteit | Belgium, France, Germany | — |
| 2 | Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis (2022) | Antimicrobial Resistance Collaborators, Global Burden of Disease collaborator network, Global Burden of Disease Project | Thailand, United Kingdom, United States | — |
| 3 | The global burden of metabolic disease: Data from 2000 to 2019 (2023) | Beth Israel Deaconess Medical Center, Cedars-Sinai Medical Center, Cedars-Sinai Medical Center / Houston Research Institute | Australia, China, Hong Kong | — |
| 4 | Air pollution and climate change as grand challenges to sustainability (2024) | University of Agriculture, University of the Punjab | Pakistan | — |
| 5 | Definition and diagnostic criteria of clinical obesity (2025) | Boston University, Catholic University of the Sacred Heart, Chobanian & Avedisian School of Medicine, Boston University | Australia, Austria, Brazil | — |
| 6 | Global, regional, and national burden of stroke and its risk factors, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019 (2021) | Aksum University, Auckland University of Technology, Institute for Health Metrics and Evaluation (IHME), University of Washington | Ethiopia, Iran, New Zealand | — |
| 7 | Global, regional, and national burden of epilepsy, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021 (2025) | Addis Ababa University, Auckland University of Technology, Global (Multi-institutional group) | Australia, Canada, Ethiopia | — |

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 |
|---|----------------|---------------------------------------|---------------|
| University of Washington | United States | SCImago #45 · THE 25 · QS 81 | 14 |
| Institute for Health Metrics and Evaluation, University of Washington | United States | — | 6 |
| University of Cambridge | United Kingdom | SCImago #63 · THE =3 · QS 6 | 5 |
| Stanford University | United States | SCImago #18 · THE =5 · QS 3 | 5 |
| National Institutes of Health | United States | SCImago #44 | 4 |
| Northwestern University | United States | THE 30 · QS =42 | 4 |
| Auckland University of Technology | New Zealand | SCImago #3365 · THE 501–600 · QS =410 | 4 |
| University of Sydney | Australia | SCImago #93 · THE =53 · QS =25 | 4 |
| Columbia University | United States | SCImago #65 · THE 20 · QS =38 | 4 |
| University of Southern California | United States | SCImago #192 · THE =73 · QS 146 | 4 |
| Harvard University | United States | SCImago #4 · THE =5 · QS 5 | 3 |
| Beth Israel Deaconess Medical Center | United States | SCImago #647 | 3 |
| University of Michigan | United States | SCImago #43 · THE 23 · QS 45 | 3 |
| University College London | United Kingdom | SCImago #30 | 3 |
| University of Alabama at Birmingham | United States | QS 1001-1200 | 3 |

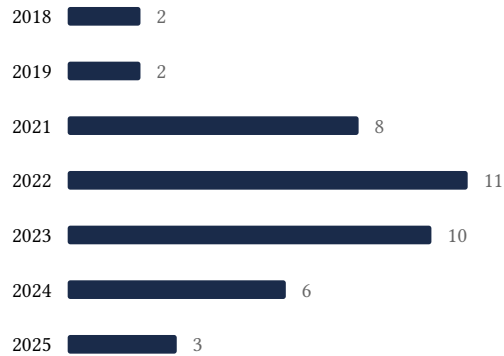
Geographic distribution of citing authors

| Country | Citing papers |
|----------------|---------------|
| United States | 33 |
| United Kingdom | 14 |
| Australia | 12 |
| China | 11 |
| Germany | 10 |
| Canada | 7 |
| New Zealand | 7 |
| Switzerland | 7 |
| Sweden | 6 |
| Italy | 6 |
| Singapore | 5 |
| France | 4 |

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 sequence of the human genome | 10 | 8 CFR 204.5(h)(3)(v) – Criterion 5 |
| Contribution 2 | Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic ... | 10 | 8 CFR 204.5(h)(3)(v) – Criterion 5 |
| Contribution 3 | Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and ... | 7 | 8 CFR 204.5(h)(3)(v) – Criterion 5 |