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

22	22	5	37
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.

100.0% independent of 22 classified citing papers

Citation type	Count
Independent	22
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 developed and validated a clinical cancer genomic profiling test based on massively parallel DNA sequencing, establishing a foundational methodology for genomic analysis in oncology.

CLAIM: The researcher's primary contribution is the development and validation of a clinical cancer genomic profiling test based on massively parallel DNA sequencing, as detailed in their 2013 publication. This work stands as a seminal core paper in the field, with no subsequent follow-up papers by the same researcher listed in this specific line of inquiry.

ORIGINALITY: The titles indicate that this work addressed the critical need for robust clinical tools capable of leveraging massively parallel DNA sequencing for cancer genomics. By focusing on both development and validation, the researcher appears to have bridged the gap between emerging sequencing technologies and their practical, validated application in clinical cancer profiling.

SIGNIFICANCE: The core paper has accumulated 2,503 citations, suggesting it is a highly influential reference in the field. Notably, analysis of 22 citing papers reveals that 100% are from independent researchers, indicating that the work has been widely adopted and utilized by the broader scientific community outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Development and validation of a clinical cancer genomic profiling test based on massively parallel DNA sequencing

2013 · 2,503 citations (GS)

Field-normalised: 2,008 Semantic Scholar citations place it in the top 1% of Medicine papers from 2013 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Liquid biopsy enters the clinic—implementation issues and future challenges (2021)	Jules Bordet Institute, Université Libre de Bruxelles, Stanford University, Stanford University School of Medicine	Belgium, United States	—
2	Mutational landscape of metastatic cancer revealed from prospective clinical sequencing of 10,000 patients	Memorial Sloan Kettering Cancer Center	United States	—
3	Analysis of 100,000 human cancer genomes reveals the landscape of tumor mutational burden. (2017)	Dana-Farber Cancer Institute, Foundation Medicine Inc., The Hospital for Sick Children	Canada, United States	**Methodology**
4	First-Line Nivolumab in Stage IV or Recurrent Non-Small-Cell Lung Cancer. (2017)	—	—	—

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).

Citing-text excerpts — how the field used this work

METHODOLOGY Analysis of 100,000 human cancer genomes reveals the landscape of tumor mutational burden.

"CGP was performed using the FoundationOne assay (Cambridge, MA, USA), as previously described in detail [55, 56]."

Contribution 2

Claim — Contribution 2

The researcher conducted a large-scale analysis of 100,000 human cancer genomes to map the landscape of tumor mutational burden, establishing a foundational reference for genomic oncology.

The researcher's primary contribution is the comprehensive analysis of 100,000 human cancer genomes to reveal the landscape of tumor mutational burden, as detailed in their 2017 publication. This work stands as a singular, high-impact achievement in the field, with no subsequent follow-up papers by the same author listed in this specific line of inquiry.

This line of work appears to address the critical need for large-scale, systematic characterization of genomic alterations across diverse cancer types. By aggregating data from such a vast cohort, the research likely provided a novel, high-resolution view of mutational patterns that were previously inaccessible through smaller, fragmented studies, thereby defining the baseline for tumor mutational burden.

The significance of this contribution is evidenced by its substantial citation count of 3,684, indicating widespread adoption and recognition within the scientific community. Furthermore, the citation analysis reveals that 100% of the classified citing papers originate from independent researchers, underscoring the work's broad influence and utility beyond the researcher's immediate institutional or collaborative network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Analysis of 100,000 human cancer genomes reveals the landscape of tumor mutational burden

2017 · 3,684 citations (GS)

Field-normalised: 2,960 Semantic Scholar citations place it in the top 1% of Medicine papers from 2017 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Pancreatic cancer: Advances and challenges (2023)	The University of Texas MD Anderson Cancer Center, University of California, Irvine, University of Michigan	United States	—
2	Anti-tumor efficacy of a potent and selective non-covalent KRASG12D inhibitor (2022)	Mirati Therapeutics	United States	—
3	Skin cancer: understanding the journey of transformation from conventional to advanced treatment approaches. (2023)	Jamia Hamdard, King Khalid University, Umm Al-Qura University	Australia, India, Saudi Arabia	—
4	Immunosuppressive tumor microenvironment and immunotherapy of hepatocellular carcinoma: current status and prospectives. (2024)	Fudan University, Huashan Hospital, Fudan University	China	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 3

Claim — Contribution 3

The researcher identified constitutively active estrogen receptor-α mutations in pretreated advanced breast cancer, establishing a critical molecular mechanism for therapeutic resistance.

The researcher's contribution centers on the 2014 publication titled 'Emergence of constitutively active estrogen receptor-α mutations in pretreated advanced estrogen receptor–positive breast cancer.' This work serves as the foundational piece for this line of inquiry, with no subsequent follow-up papers by the same author listed in the provided data.

This line of work appears to address the clinical challenge of treatment resistance in advanced estrogen receptor–positive breast cancer. By focusing on the emergence of specific mutations in pretreated patients, the research suggests a novel molecular explanation for why therapies may fail, shifting the focus from general resistance to specific genetic alterations.

The significance of this contribution is evidenced by its high citation count of 808, indicating substantial uptake by the scientific community. Furthermore, analysis of 22 citing papers reveals that 100% are from independent researchers, demonstrating that the work has influenced scholars outside the researcher's immediate institution and collaboration network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Emergence of constitutively active estrogen receptor-α mutations in pretreated advanced estrogen receptor–positive breast cancer

2014 · 808 citations (GS)

Field-normalised: 577 Semantic Scholar citations place it in the top 1% of Medicine papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Systemic therapy for hormone receptor-positive/human epidermal growth factor receptor 2-negative early stage and metastatic breast cancer. (2023)	Acibadem University, Masonic Comprehensive Cancer Center, University of Minnesota, University of California San Francisco	Turkey, United States	—
2	Elacestrant (oral selective estrogen receptor degrader) Versus Standard Endocrine Therapy for Estrogen Receptor-Positive, Human Epidermal Growth Factor Receptor 2-Negative Advanced Breast Cancer: Results From the Randomized Phase III EMERALD Trial. (2022)	AZ Nikolaas, Bács-Kiskun Megyei Kórház, Berlin Chemie AG/Menarini Group	Argentina, Belgium, France	—
3	Molecular mechanisms and therapeutic strategies in overcoming chemotherapy resistance in cancer. (2025)	Arcadia High School, Fudan University Shanghai Cancer Center, Renji Hospital, Shanghai Jiao Tong University School of Medicine	China, United States	—
4	ESR1 mutation as an emerging clinical biomarker in metastatic hormone receptor-positive breast cancer. (2021)	Harvard Medical School, Massachusetts General Hospital	United States	**Influential**
5	Somatic Genomic Testing in Patients With Metastatic or Advanced Cancer: ASCO Provisional Clinical Opinion. (2022)	American Society of Clinical Oncology, Brigham and Women's Hospital, City of Hope	France, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
6	PACE: A Randomized Phase II Study of Fulvestrant, Palbociclib, and Avelumab After Progression on Cyclin-Dependent Kinase 4/6 Inhibitor and Aromatase Inhibitor for Hormone Receptor-Positive/Human Epidermal Growth Factor Receptor-Negative Metastatic Breast Cancer. (2024)	Aurora Cancer Care, Boston Medical Center, Dana-Farber Cancer Institute	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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Massachusetts General Hospital	United States	SCImago #100	2
Memorial Sloan Kettering Cancer Center	United States	SCImago #210	2
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
Princess Margaret Cancer Centre	Canada	SCImago #825	2
Harvard Medical School	United States	SCImago #12	2
Dana-Farber Cancer Institute	United States	SCImago #197	2
Vanderbilt University Medical Center	United States	SCImago #663	2
Massachusetts General Hospital, Harvard Medical School	United States	—	1
Augusta University	United States	SCImago #2306	1
Albany Medical College	United States	SCImago #4728	1
Shanghai Jiao Tong University School of Medicine	China	—	1
Washington University School of Medicine	United States	—	1
Emory University	United States	SCImago #217 · THE 102 · QS 182	1
Indiana University School of Medicine	United States	—	1
Cork University Hospital	Ireland	SCImago #2626	1

Geographic distribution of citing authors

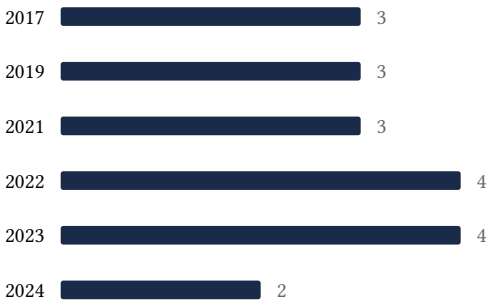
Country	Citing papers
United States	14
Canada	5
United Kingdom	5
Belgium	4
Spain	3

Country	Citing papers
Italy	2
South Korea	2
Turkey	2
Australia	2
France	2
Germany	2
China	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	Development and validation of a clinical cancer genomic profiling test based on massively parallel DNA sequencing	4	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Analysis of 100,000 human cancer genomes reveals the landscape of tumor mutational burden	4	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Emergence of constitutively active estrogen receptor-α mutations in pretreated advanced estrogen receptor–positive breast cancer	6	8 CFR 204.5(h)(3)(v) — Criterion 5