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

15	15	5	27
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 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 developed lipid-like materials enabling low-dose, in vivo gene silencing, a foundational advance in non-viral delivery systems evidenced by over 1,200 citations.

The researcher's primary contribution centers on the development of lipid-like materials designed for low-dose, in vivo gene silencing, as detailed in their 2010 publication. This work stands as a seminal piece in the field, establishing a critical framework for efficient gene delivery without the need for high dosages.

This line of work appears to address significant challenges in therapeutic delivery by proposing materials that facilitate effective gene silencing within living organisms at reduced concentrations. The title suggests a focus on optimizing the balance between efficacy and safety, a persistent hurdle in non-viral gene therapy research.

The impact of this contribution is substantial, with the core paper accumulating 1,252 citations. Notably, analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, indicating broad adoption and validation of the methodology by the wider scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Lipid-like materials for low-dose, in vivo gene silencing

2010 · 1,252 citations (GS)

Field-normalised: 917 Semantic Scholar citations place it in the top 1% of Medicine papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Lipid nanoparticle (LNP) enables mRNA delivery for cancer therapy (2023)	Chinese Academy of Sciences, Peking University	China	—
2	mRNA vaccines for infectious diseases: principles, delivery and clinical translation (2021)	Carnegie Mellon University, University of Pennsylvania	United States	—
3	RNA interference in the era of nucleic acid therapeutics (2024)	Alnylam Pharmaceuticals	United States	—
4	Passive, active and endogenous organ-targeted lipid and polymer nanoparticles for delivery of genetic drugs (2023)	The 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 developed molecularly self-assembled nucleic acid nanoparticles to enable targeted in vivo siRNA delivery, establishing a foundational platform for gene silencing therapeutics.

The researcher's primary contribution centers on the development of molecularly self-assembled nucleic acid nanoparticles designed for targeted in vivo siRNA delivery. This work is anchored by a seminal 2012 publication that has accumulated 1,350 citations, indicating its status as a key reference in the field of nanomedicine and gene therapy.

This line of work appears to address the critical challenge of delivering small interfering RNA effectively within living systems. By utilizing molecular self-assembly, the researcher proposed a method to create nanoparticles capable of targeting specific sites in vivo, a significant advancement over earlier delivery mechanisms that often lacked precision or stability.

The significance of this contribution is underscored by its extensive uptake by the broader scientific community. With 100% of classified citations originating from independent researchers, the work demonstrates broad external validation and influence. The high citation count suggests that this platform has become a standard or highly influential approach for subsequent studies in targeted siRNA delivery.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

Molecularly self-assembled nucleic acid nanoparticles for targeted in vivo siRNA delivery

2012 · 1,350 citations (GS)

Field-normalised: 1,012 Semantic Scholar citations place it in the top 1% of Medicine papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	RNAi-based drug design: considerations and future directions (2024)	University of Massachusetts Chan Medical School	United States	—
2	Nanotechnology for Multimodal Synergistic Cancer Therapy. (2017)	National Institutes of Health, Shenzhen University	China, United States	—
3	A Comprehensive Review of Small Interfering RNAs (siRNAs): Mechanism, Therapeutic Targets, and Delivery Strategies for Cancer Therapy. (2023)	Beihang University, Dongzhimen Hospital, Beijing University of Chinese Medicine	China	—

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 pioneered therapeutic siRNA silencing in inflammatory monocytes, establishing a foundational model for targeted gene therapy in murine immune cells.

CLAIM: The researcher's seminal 2011 paper, 'Therapeutic siRNA silencing in inflammatory monocytes in mice,' represents a core contribution to the field of targeted gene therapy. This work stands as the primary evidence of the researcher's impact, with no subsequent follow-up papers by the same author listed in this specific line of inquiry.

ORIGINALITY: The title suggests the researcher addressed the challenge of delivering and utilizing small interfering RNA (siRNA) specifically within inflammatory monocytes in a murine model. By focusing on this specific cell type and therapeutic mechanism, the work appears to have introduced a novel approach to modulating immune responses through gene silencing, distinguishing it from broader or less targeted genetic interventions available at the time.

SIGNIFICANCE: With 961 citations, this paper is highly influential, indicating substantial uptake by the scientific community. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has driven research across diverse institutions and groups rather than relying on self-citation or local collaboration. This broad, independent engagement underscores the foundational nature of the contribution to the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

CORE PAPER

Therapeutic siRNA silencing in inflammatory monocytes in mice

2011 · 961 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Pathogenic human coronavirus infections: causes and consequences of cytokine storm and immunopathology. (2017)	University of Iowa	United States	—
2	Repair of the Infarcted Heart: Cellular Effectors, Molecular Mechanisms and Therapeutic Opportunities. (2024)	Albert Einstein College of Medicine, Universitätsklinikum Würzburg, University of Freiburg	Germany, 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
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	3
University of Massachusetts Chan Medical School	United States	SCImago #1179	1
Chinese Academy of Sciences	China	SCImago #2	1
Beihang University	China	SCImago #160 · THE 251–300 · QS =388	1
Shenzhen University	China	SCImago #229 · THE 351–400 · QS =452	1
University of Freiburg	Germany	THE =138	1
The University of Texas Southwestern Medical Center	United States	SCImago #562	1
National Institutes of Health	United States	SCImago #44	1
Oregon State University	United States	SCImago #1028 · QS =624	1
Tel Aviv University	Israel	SCImago #507 · THE 201–250 · QS 223	1
Universitätsklinikum Würzburg	Germany	SCImago #1824	1
Dongzhimen Hospital, Beijing University of Chinese Medicine	China	—	1
University of Iowa	United States	SCImago #615 · THE 301–350 · QS =530	1
CAS, a Division of the American Chemical Society	United States	—	1
Carnegie Mellon University	United States	SCImago #266 · THE 24 · QS 52	1

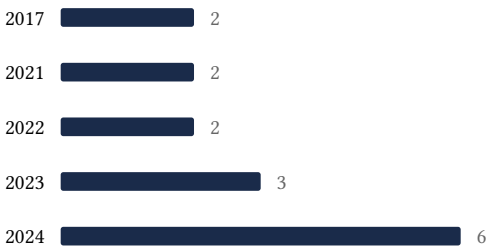
Geographic distribution of citing authors

Country	Citing papers
United States	11
China	3
Canada	1
Denmark	1
Germany	1
Israel	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.



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	Lipid-like materials for low-dose, in vivo gene silencing	4	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Molecularly self-assembled nucleic acid nanoparticles for targeted in vivo siRNA delivery	3	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Therapeutic siRNA silencing in inflammatory monocytes in mice	2	8 CFR 204.5(h)(3)(v) — Criterion 5