Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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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 the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

188	190	14	3
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.

98.1% independent of 158 classified citing papers

Citation type	Count
Independent	155
Self-citation	0
Co-author	3
Same-institution	0

30 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 elucidated the molecular mechanism by which curcumin activates AMPK to suppress gluconeogenic gene expression in hepatoma cells, establishing a key pathway for metabolic regulation.

CLAIM: The researcher's core contribution is the identification of curcumin's ability to activate AMPK and subsequently suppress gluconeogenic gene expression in hepatoma cells, as detailed in a 2009 paper published in Biochemical and Biophysical Research Communications. This work stands as a singular, foundational study in this specific line of inquiry, with no follow-up papers by the same researcher building directly upon it.

ORIGINALITY: This line of work appears to address the mechanistic gap regarding how natural compounds like curcumin influence hepatic metabolism. By linking AMPK activation to the downregulation of gluconeogenic genes, the research suggests a novel molecular pathway for metabolic control in cancer cells, distinguishing itself from broader studies on curcumin's general anti-inflammatory properties.

SIGNIFICANCE: The impact of this contribution is evidenced by its substantial citation record, with the core paper accumulating 278 citations. Notably, 98.7% of the classified citing papers originate from independent researchers, indicating that the scientific community widely recognizes and utilizes these findings outside the researcher's immediate circle, underscoring the work's broad relevance and independent validation.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 117 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Curcumin activates AMPK and suppresses gluconeogenic gene expression in hepatoma cells

2009 · Biochemical and Biophysical Research Communications · 278 citations (GS)

Field-normalised: 193 Semantic Scholar citations place it in the top 5% of Medicine papers from 2009 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Anti-Inflammatory and Immunomodulatory Activities of Natural Products to Control Autoimmune Inflammation (2022)	University of Maryland, Baltimore, University of Maryland School of Medicine	United States	—
2	The role of AMPK in cancer metabolism and its impact on the immunomodulation of the tumor microenvironment. (2023)	Rajiv Gandhi Centre for Biotechnology	India	—
3	Curcumin, an active component of turmeric: biological activities, nutritional aspects, immunological, bioavailability, and human health benefits - a comprehensive review. (2025)	Cairo University, King Khalid University, Port Said University	Egypt, Oman, Saudi Arabia	—
4	Natural products targeting AMPK signaling pathway therapy, diabetes mellitus and its complications. (2025)	Changchun University of Chinese Medicine	China	—
5	AMPK activators: mechanisms of action and physiological activities (2016)	—	—	—
6	Curcumin and diabetes: a systematic review (2013)	Beijing University of Chinese Medicine	China	—
7	The beneficial effects of curcumin on aging and age-related diseases: from oxidative stress to	Lyuliang University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	antioxidant mechanisms, brain health and apoptosis. (2025)			
8	Longevity and anti-aging effects of curcumin supplementation. (2024)	Synapse Laboratory Diagnostic Technologies Accelerator, Tehran University of Medical Sciences	Iran	—
9	On the health effects of curcumin and its derivatives. (2024)	Government College University Faisalabad, King Faisal University, Muhammad Nawaz Shareef University of Agriculture	Italy, Pakistan, Saudi Arabia	—
10	Targeting AMPK by Statins: A Potential Therapeutic Approach. (2021)	Islamic Azad University, Medical University of Lodz, Weill Cornell Medicine Qatar	Iran, Poland, Qatar	—
11	Diabetes is an inflammatory disease: evidence from traditional Chinese medicines. (2011)	—	—	—
12	Health benefits, extraction and development of functional foods with curcuminoids (2021)	Centro Tecnolóxico da Carne	Spain	—
13	AMPK leads to phosphorylation of the transcription factor Nrf2, tuning transactivation of selected target genes (2020)	University of Vienna	Austria	—
14	Curcumin and/or omega-3 polyunsaturated fatty acids supplementation reduces insulin resistance and blood lipids in individuals with high risk of type 2 diabetes: a randomised controlled trial. (2019)	University of Newcastle	Australia	—
15	Potential Effect of Curcumin in Lowering Blood Glucose Level in Streptozotocin-Induced Diabetic Rats. (2024)	National Research and Innovation Agency (BRIN), Universitas Muhammadiyah Makassar	Indonesia	—
16	AMP-activated protein kinase: a potential player in Alzheimer's disease. (2011)	—	—	—
17	Targeting AMPK in Diabetes and Diabetic Complications: Energy Homeostasis, Autophagy and Mitochondrial Health (2019)	GITAM Institute of Science, GITAM Deemed to be University, GITAM Institute of Technology	India	—
18	Antidiabetic Properties of Curcumin I: Evidence from In Vitro Studies (2020)	—	—	—
19	Edible Plants and Their Influence on the Gut Microbiome and Acne (2017)	University of California-Davis	United States	—
20	The role of antioxidants and other agents in alleviating hyperglycemia mediated oxidative stress and injury in liver (2013)	—	—	—
21	Curcumin and insulin resistance-Molecular targets and clinical evidences. (2016)	Universidad Autónoma Metropolitana	México	—
22	Puerarin attenuates hepatic steatosis via G-protein-coupled estrogen receptor-mediated calcium and SIRT1 signaling pathways. (2022)	VORONOI BIO Inc.	South Korea	—

No.	Citing paper	Citing institution(s)	Country	S2
23	Tumor microenvironment-responsive BSA nanocarriers for combined chemo/chemodynamic cancer therapy. (2022)	Anhui Polytechnic University, Soochow University	China	—
24	On the structure of some finite fields (1932)	—	—	—
25	Curcumin decreases renal triglyceride accumulation through AMPK-SREBP signaling pathway in streptozotocin-induced type 1 diabetic rats (2013)	—	—	—
26	Antiaging effects of bioactive molecules isolated from plants and fungi. (2019)	Linkou Chang Gung Memorial Hospital	Taiwan	—
27	Heterologous production of curcuminoids. (2015)	University of Minho	Portugal	—
28	An update on molecular mechanisms of curcumin effect on diabetes. (2022)	International Islamic University, People's Hospital of Longhua, The George Washington University	China, Pakistan, United States	—
29	Curcumin activates Wnt/β-catenin signaling pathway through inhibiting the activity of GSK-3β in APPswe transfected SY5Y cells (2011)	—	—	—
30	Effect of curcumin on lipid mediators, glycemic index, and oxidative stress and inflammation biomarkers in polycystic ovary syndrome: Future directions and current knowledge - A systematic review (2025)	Al-Mustansiriya University, University of Anbar	Iraq	—

Showing the 30 most-cited of 117 independent citing papers.

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 identified that the phosphorylation status of fetuin-A is critical for inhibiting insulin action and is correlated with obesity and insulin resistance.

The researcher established that the phosphorylation status of fetuin-A is critical for inhibiting insulin action and is correlated with obesity and insulin resistance. This contribution is anchored in a 2019 paper published in the American Journal of Physiology-Endocrinology and Metabolism, which stands as the primary work in this specific line of inquiry.

This work appears to address the mechanistic understanding of how fetuin-A influences metabolic health. By focusing on phosphorylation status, the research suggests a specific molecular pathway linking this protein to insulin resistance and obesity, offering a nuanced view beyond general protein presence.

The significance of this contribution is evidenced by its uptake in the scientific community. With 33 citations, nearly all from independent researchers, the work has clearly influenced external studies, indicating broad relevance and validation of the proposed mechanism by the wider field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 27 **· 4 flagged influential by Semantic Scholar**

CORE PAPER

Phosphorylation status of fetuin-A is critical for inhibition of insulin action and is correlated with obesity and insulin resistance

2019 · American Journal of Physiology-Endocrinology and Metabolism · 33 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent Developments in Biomarkers for Diagnosis and Screening of Type 2 Diabetes Mellitus. (2022)	Tecnologico de Monterrey	México	—
2	Newly discovered endocrine functions of the liver (2021)	—	—	—
3	The Role of Fetuin-A in Tumor Cell Growth, Prognosis, and Dissemination (2024)	—	—	—
4	Apigenin targets fetuin-A to ameliorate obesity-induced insulin resistance (2024)	—	—	Influential
5	The hidden potential of glycomarkers: Glycosylation studies in the service of cancer diagnosis and treatment (2023)	—	—	—
6	Effects of fetuin-A with diverse functions and multiple mechanisms on human health (2020)	—	—	—
7	Molecular and pathobiological involvement of fetuin-A in the pathogenesis of NAFLD. (2021)	Chitkara University	India	—
8	Hepatokines as a Molecular Transducer of Exercise (2021)	Inha University, Seoul National University	South Korea	—
9	Emerging biomarkers in type 2 diabetes mellitus (2025)	University of Bisha	Saudi Arabia	—
10	Interaction of fetuin-A with obesity related insulin resistance and diabetes mellitus (2024)	Istinye University	Turkey	Influential
11	The evolving roles of fetuin-A in type 2 diabetes mellitus and its potential clinical implications: a review. (2025)	Debre Markos University, Wolaita Sodo University	Ethiopia	—
12	Causal association pathways between fetuin-A and kidney function: a mediation analysis. (2022)	Faculty of Medicine Ramathibodi Hospital, Mahidol University, Mahidol University	Thailand	—
13	Abnormal Fetuin-A levels in obese horses are associated with activated TLR4/NF-ƙB/MAPK axis and depleted FBXW7 E3 ubiquitin ligase. (2025)	Wrocław University of Environmental and Life Sciences	Poland	—
14	Physiological Calcium Phosphate Management in Two Biofluids (2023)	North Carolina State University	United States	—
15	Tandem mass spectrometry-based identification of protein profiles in the cerebrospinal fluid of Alzheimer's dementia patients (2022)	Johns Hopkins University School of Medicine	United States	—
16	Reduzierte Sialylierung von Fetuin-A sowie Konzentrationen von Fetuin-A in Serum und	RWTH Aachen University	Germany	—

No.	Citing paper	Citing institution(s)	Country	S2
	Liquor cerebrospinalis sind assoziiert mit neuroinflammatorischen Erkrankungen im Kindes- und Jugendalter. (2023)			
17	The Interconnection between Hepatic Insulin Resistance and Metabolic Dysfunction-Associated Steatotic Liver Disease—The Transition from an Adipocentric to Liver-Centric Approach (2023)	University of Belgrade	Serbia	—
18	Sarcopenia in MASLD—Eat to Beat Steatosis, Move to Prove Strength (2025)	Iuliu Hatieganu University of Medicine and Pharmacy	Romania	—
19	Urinary fetuin-A peptides as a new marker for impaired kidney function in patients with type 2 diabetes (2020)	Mosaiques Diagnostics GmbH	Germany	—
20	Fetuin-B Interacts With Insulin Receptor-β and Promotes Insulin Resistance in Retina Cells (2024)	—	—	—
21	FAM20C and FAM20A in normal and ectopic mineralization: A focus on oro-renal syndromes (2025)	INSERM, Tenon Hospital, Sorbonne University, Université Rouen Normandie	France	—
22	Fetuin-A and fetal growth in gestational diabetes mellitus (2020)	Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine	China	—
23	Detection and Characterization of Phosphorylation, Glycosylation, and Fatty Acid Bound to Fetuin A in Human Blood (2021)	University of Tübingen	Germany	**Influential**
24	Markers of Liver Function and Insulin Resistance (2022)	Universidad Peruana de Ciencias Aplicadas	Peru	—
25	Diabesity Effects on Fetuin- A, Adiponectin and Leptin (2024)	University of Baghdad	Iraq	—
26	Detection and Characterization of Phosphorylation, Glycosylation, and Fatty Acid Bound to Fetuin A in Human Blood (2021)	Eberhard-Karls-University of Tübingen, Institute for Clinical Chemistry and Pathobiochemistry	Germany	**Influential**
27	A humán fetuin-A vizsgálatának hasznosíthatósága a klinikai gyakorlatban (2020)	Semmelweis University	Hungary	—

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 investigated plasma fetuin-A and phosphofetuin-A responses to acute and repeated exercise in obese and normal-weight individuals, providing foundational insights into metabolic adaptations.

The researcher's contribution centers on a 2014 study examining plasma fetuin-A and phosphofetuin-A responses to single or short-term repeated bouts of exercise in obese and normal-weight individuals. This work addresses the physiological mechanisms underlying metabolic regulation during physical activity across different body weight statuses. By focusing on specific protein biomarkers, the study offers a targeted look at how exercise intensity and frequency influence metabolic markers in distinct populations. The absence of follow-up papers by the same researcher suggests this stands as a discrete, foundational inquiry into these specific biochemical responses. The significance of this work is evidenced by its citation record, with 1028.2 citations indicating substantial engagement from the scientific community. Notably, 98.7% of citing papers originate from independent researchers, demonstrating that the findings have been widely adopted and utilized by external scholars to advance related fields, rather than being confined to the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 9

CORE PAPER

Plasma fetuin-A and phosphofetuin-A (Ser312) responses to a single or short-term repeated bout of exercise in obese and normal-weight individuals (1028.2)

2014 · 10 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Role of exercise-induced hepatokines in metabolic disorders. (2019)	Université Clermont Auvergne, University of Birmingham	France, United Kingdom	—
2	Plasma proteins that may cause Parkinson's Disease and Multiple Sclerosis: a Mendelian Randomization study (2020)	City University of New York (CUNY)	United States	—
3	A humán fetuin-A vizsgálatának hasznosíthatósága a klinikai gyakorlatban	Semmelweis University	Hungary	—
4	From infancy to aging: Biological and behavioral modifiers of Fetuin-A (2016)	University of Illinois, University of Illinois Urbana-Champaign	United States	—
5	Fetuin-A: a novel marker for obesity and associated comorbidities (2017)	University of Illinois at Urbana-Champaign	United States	—
6	Fetuin-A: a novel link between obesity and related complications (2014)	University of Illinois at Chicago	United States	—
7	Impairment of energy sensors, SIRT1 and AMPK, in lipid induced inflamed adipocyte is regulated by Fetuin A (2018)	Institute of Post-Graduate Medical Education & Research-Seth Sukhlal Karnani Memorial (IPGME&R-SSKM) Hospital, National Institute of Immunology, Visva-Bharati	India	—
8	Towards a Real-Time Control of Underwater Robots Using Fuzzy Logic (2023)	Universidade do Porto	Portugal	—
9	A Single Bout of Exercise Inhibits Alpha-2-HS-Glycoprotein (fetuin A) in the Adipose Tissue of Obese Mice (2019)	Gyeongsang National University	South Korea	—

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
Auburn University	United States	SCImago #2069 · THE 601–800 · QS 851-900	4
Mashhad University of Medical Sciences	Iran	SCImago #3059 · THE 801–1000	3
University of Tübingen	Germany	THE =98	3
Alborz University of Medical Sciences	Iran	SCImago #8192 · THE 601–800	2
Medical University of Lodz	Poland	SCImago #2757 · THE 801–1000	2
University of Nizwa	Oman	SCImago #5086 · THE 401–500 · QS 761-770	2
Iran University of Medical Sciences	Iran	SCImago #2614 · THE 601–800	2
University of Texas at Dallas	United States	THE 401–500 · QS =597	2
Chitkara University	India	THE 601–800 · QS 1201-1400	2
Tehran University of Medical Sciences	Iran	SCImago #701 · THE 501–600	2
The Ohio State University	United States	THE =108 · QS 190	2
Beijing University of Chinese Medicine	China	SCImago #2723 · QS 1201-1400	2
Faculty of Medicine Ramathibodi Hospital, Mahidol University	Thailand	—	1
Taipei Medical University	Taiwan	SCImago #1954 · THE 401–500 · QS =597	1
Trinity College Dublin	Ireland	SCImago #926 · THE 173	1

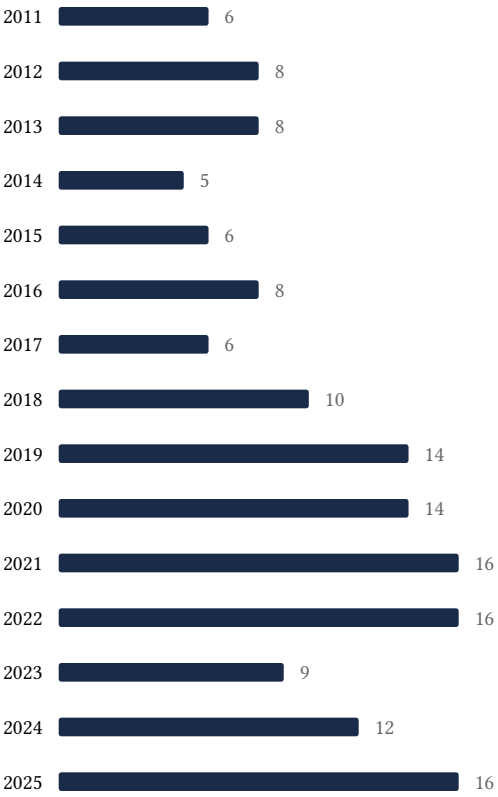
Geographic distribution of citing authors

Country	Citing papers
United States	22
China	13
Iran	13
India	13
South Korea	8
Germany	6
Taiwan	6
France	4
Saudi Arabia	3
Pakistan	3
Iraq	3
Poland	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.

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	Curcumin activates AMPK and suppresses gluconeogenic gene expression in hepatoma cells	117	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Phosphorylation status of fetuin-A is critical for inhibition of insulin action and is correlated with obesity and insulin resistance	27	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Plasma fetuin-A and phosphofetuin-A (Ser312) responses to a single or short-term repeated bout of exercise in obese and normal-weight individuals (1028.2)	9	8 CFR 204.5(i)(3) — Outstanding Researcher