Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

Kasturi Banerjee

Senior Clinical Scientist

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

797	805	16	8
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.

96.1% independent of 777 classified citing papers

Citation type	Count
Independent	747
Self-citation	8
Co-author	22
Same-institution	0

20 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 advanced pancreatic cancer immunotherapy by establishing a foundational review of emerging trends and subsequently developing targeted MUC4 nanovaccines to induce durable T cell responses.

CLAIM: The researcher's contribution centers on advancing immunotherapeutic strategies for pancreatic cancer, anchored by a seminal 2018 review in Cancer Letters and extended through subsequent experimental work on MUC4-targeted nanovaccines.

ORIGINALITY: This line of work appears to address the challenge of effective immune targeting in pancreatic cancer. While the core paper surveyed emerging trends, the follow-up studies suggest a shift toward specific mechanistic interventions, utilizing nanovaccine platforms to activate dendritic cells and induce functional T cell responses against the MUC4 antigen.

SIGNIFICANCE: The foundational review has garnered 124 citations, indicating substantial uptake. Notably, 96.1% of the scholar's total citing papers originate from independent researchers, suggesting that this body of work has significantly influenced the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 140 · **2 flagged influential by Semantic Scholar**

CORE PAPER

Emerging trends in the immunotherapy of pancreatic cancer

2018 · Cancer letters 417, 35-46, 2018 · 124 citations (GS)

Field-normalised: 93 Semantic Scholar citations place it in the top 5% of Medicine papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The tumour microenvironment and metabolism in renal cell carcinoma targeted or immune therapy. (2021)	—	—	—
2	The challenge of drug resistance in pancreatic ductal adenocarcinoma: a current overview (2019)	Instituto Biosanitario de Granada, University of Granada, Virgen de las Nieves Hospital	Spain	—
3	Cell-Autonomous Cxcl1 Sustains Tolerogenic Circuitries and Stromal Inflammation via Neutrophil-Derived TNF in Pancreatic Cancer (2023)	University of Miami Miller School of Medicine	United States	—
4	An immune-related gene signature for predicting survival and immunotherapy efficacy in hepatocellular carcinoma. (2021)	Chengdu University of Traditional Chinese Medicine, Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences and Peking Union Medical College, Tsinghua University	China	—
5	Targeted cancer immunotherapy with genetically engineered oncolytic Salmonella typhimurium (2020)	Chonnam National University Medical School, Hunan University	China, South Korea	—
6	Targeted Therapy for Highly Desmoplastic and Immunosuppressive Tumor Microenvironment of Pancreatic Ductal Adenocarcinoma (2024)	University of Maryland School of Medicine, University of Missouri	United States	—
7	Immunotherapy for Parkinson's disease (2020)	University of Nebraska Medical Center	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
8	The interaction between UBR7 and PRMT5 drives PDAC resistance to gemcitabine by regulating glycolysis and immune microenvironment (2024)	Nanjing University of Chinese Medicine, Shandong Cancer Hospital and Institute, Shandong First Medical University and Shandong Academy of Medical Sciences, Shandong Provincial Hospital Affiliated to Shandong First Medical University	China	—
9	Irreversible electroporation augments β-glucan induced trained innate immunity for the treatment of pancreatic ductal adenocarcinoma (2023)	University of Louisville, University of Louisville School of Medicine	United States	—
10	An overview of genetic mutations and epigenetic signatures in the course of pancreatic cancer progression. (2021)	Beijing Institute of Technology, Beijing University of Technology	China	—
11	Dilemma and Challenge of Immunotherapy for Pancreatic Cancer. (2021)	The Second Affiliated Hospital, Zhejiang University School of Medicine	China	—
12	Pancreatic ductal adenocarcinoma immune microenvironment and immunotherapy prospects. (2020)	Capital Medical University, Peking University Third Hospital, Sidney Kimmel Cancer Center at Johns Hopkins University School of Medicine	China, United States	—
13	Pancreatic Cancer, Gut Microbiota, and Therapeutic Efficacy (2020)	Chinese Academy of Medical Sciences & Peking Union Medical College, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College	China	—
14	Tertiary Lymphoid Structures in Pancreatic Cancer are Structurally Homologous, Share Gene Expression Patterns and B-cell Clones with Secondary Lymphoid Organs, but Show Increased T-cell Activation (2025)	Center for Molecular Medicine Cologne, University of Cologne	Germany	—
15	Regulation of tumor microenvironment for pancreatic cancer therapy (2021)	Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, The First Hospital of Jilin University, The Second Affiliated Hospital of Harbin Medical University	China, PR China	—
16	Using PAMPs and DAMPs as adjuvants in cancer vaccines. (2021)	Xuzhou Medical University	China	—
17	A nanodrug simultaneously inhibits pancreatic stellate cell activation and regulatory T cell infiltration to promote the immunotherapy of pancreatic cancer (2023)	Jinan University, The Third Affiliated Hospital of Sun Yat-sen University	China, PR China	—

No.	Citing paper	Citing institution(s)	Country	S2
18	Clinical nutrition as part of the treatment pathway of pancreatic cancer patients: an expert consensus. (2022)	Complejo Hospitalario de Navarra, La Paz University Hospital, IdiPAZ, Cátedra UAM-AMGEN, CIBERONC, La Princesa University Hospital	Spain	—
19	HDAC3 modulates cancer immunity via increasing PD-L1 expression in pancreatic cancer (2019)	Huazhong University of Science and Technology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology	China	—
20	IFN-γ enhances the antitumor activity of attenuated (2022)	Hainan Medical University, Hainan University	China	—
21	Exploring immunotherapeutic strategies for neurodegenerative diseases: a focus on Huntington's disease and Prion diseases (2025)	National Institute of Pharmaceutical Education and Research	India	—
22	Co-deficiency of B7-H3 and B7-H4 identifies high CD8 + T cell infiltration and better prognosis in pancreatic cancer. (2022)	Wuxi People's Hospital Affiliated to Nanjing Medical University	China	—
23	CD137 agonist-based combination immunotherapy enhances activated, effector memory T cells and prolongs survival in pancreatic adenocarcinoma (2020)	—	—	—
24	Bi-objective multi-agent pathfinding with dynamic communication channels (2023)	American University of Beirut	Lebanon	—
25	Current and emerging therapeutic strategies in pancreatic cancer: Challenges and opportunities (2021)	Armed Forces Medical College	India	—
26	In-vitro model to mimic T cell subset change in human PDAC organoid co-culture. (2023)	German Cancer Research Centre, LMU Klinikum, Ludwig-Maximilians-University Munich	Germany	—
27	Updated risk factors to inform early pancreatic cancer screening and identify high risk patients (2020)	University of Illinois at Chicago, University of Illinois College of Medicine	United States	—
28	Combination systemic therapies with immune checkpoint inhibitors in pancreatic cancer: overcoming resistance to single-agent checkpoint blockade. (2018)	Cedars-Sinai Medical Center, City of Hope Comprehensive Cancer Center, City of Hope National Medical Center	United States	—
29	Purified human anti-Tn and anti-T antibodies specifically recognize carcinoma tissues (2019)	Universidad Nacional de Córdoba	Argentina	—
30	Personalized tumor vaccine for pancreatic cancer. (2023)	Beth Israel Deaconess Medical Center, Beth Israel Deaconess Medical Center, Harvard Medical School, Dana Farber Cancer Institute	United States	—

Showing the 30 most-cited of 121 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.

FOLLOW-UP WORK

A nanovaccine induces durable and functional MUC4-targeted T cell responses against pancreatic cancer

2026 · Acta Biomaterialia, 2026 · 0 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

FOLLOW-UP WORK

Amphiphilic polyanhydride-based recombinant MUC4β-nanovaccine activates dendritic cells

2019 · Genes Cancer · 26 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Advances in Polymer-Based Self-Adjuvanted Nanovaccines. (2025)	Sichuan University	P. R. China	—
2	Recent Advances in Cancer Vaccines: Challenges, Achievements, and Futuristic Prospects (2022)	Delhi Pharmaceutical Sciences and Research University, Jawaharlal Nehru University, KIET Group of Institutions	Australia, Bangladesh, India	—
3	Nanoparticle-based therapeutic strategies targeting major clinical challenges in pancreatic cancer treatment (2022)	University of North Carolina Charlotte	United States	—
4	An Overview of Nanocarrier-Based Adjuvants for Vaccine Delivery (2021)	Glenmark Pharmaceuticals, Liverpool John Moores University, Ministry of Science and Technology	India, New Zealand, United Kingdom	Influential
5	Polyanhydride Chemistry. (2022)	The Hebrew University of Jerusalem	Israel	—
6	Nanomedicine in Pancreatic Cancer: Current Status and Future Opportunities for Overcoming Therapy Resistance (2021)	Queen's University Belfast	United Kingdom	—
7	Nano-drug delivery system for pancreatic cancer: A visualization and bibliometric analysis. (2022)	The Second Affiliated Hospital of Nanchang University	China	—
8	Nanomedicine and epigenetics: New alliances to increase the odds in pancreatic cancer survival (2023)	Cancer Research Institute, Cancer Research Institute of the Slovak Academy of Sciences, Fraunhofer Institute for Biomedical Engineering	Greece, Norway, Slovakia	—
9	Hyaluronic Acid Capped, Irinotecan and Gene Co-Loaded Lipid-Polymer Hybrid Nanocarrier-Based Combination Therapy Platform for Colorectal Cancer. (2020)	Affiliated Hospital of Hebei University	China	—
10	Engineered nanomedicines to overcome resistance of pancreatic cancer to immunotherapy (2023)	Brigham and Women's Hospital, Cedars-Sinai Medical Center, Massachusetts General Hospital, Harvard Medical School	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
11	Mannosylated gelatin nanoparticles enhanced inactivated PRRSV targeting dendritic cells and increased T cell immunity (2021)	Dalian University, Texas A&M University	China, United States	—
12	Nanomaterials to combat SARS-CoV-2: Strategies to prevent, diagnose and treat COVID-19. (2022)	Hospital Universitario N. S. de Candelaria, Instituto Tecnológico y de Energías Renovables, Universidad de La Laguna	Spain	—
13	Management of Pancreatic Cancer and Its Microenvironment: Potential Impact of Nano-Targeting (2022)	Albany College of Pharmacy and Health Sciences	United States	—
14	A Novel pH-Tunable Secondary Conformation Containing Mixed Micellar System in Anticancer Treatment (2020)	China Medical University, The Metal Industries Research & Development Centre (MIRDC), University of Washington	Taiwan, United States	—
15	Role of Nanotechnology in Pancreatic Cancer (2025)	Sacred Heart College	India	—
16	An Overview of Nanocarrier-Based Adjuvants for Vaccine Delivery (2021)	Liverpool John Moores University, Ministry of Science & Technology, St. John's University	India, United Kingdom, United States	**Influential**
17	Deep Learning for Visual Search: A Survey (2019)	—	—	—
18	Mucins as anti-cancer targets: Perspectives of the glycobiologist (2021)	Queen's University	Canada	—
19	Hyaluronic acid-glycine-cholesterol conjugate-based nanoemulsion as a potent vaccine adjuvant for T cell-mediated immunity (2021)	National Chung Hsing University, National Health Research Institutes	Taiwan	—

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 established the critical role of IgG subclasses in antibody-mediated protection against carbapenem-resistant Klebsiella pneumoniae, subsequently developing broadly cross-protective monoclonal antibodies from patient-derived data.

The researcher's contribution centers on elucidating the specific role of IgG subclasses in mediating protection against carbapenem-resistant Klebsiella pneumoniae, as detailed in a 2020 mBio publication. This foundational work was extended in 2022 with the development of broadly cross-protective monoclonal antibodies derived from patient data, specifically targeting the ST258 strain.

This line of work appears to address the urgent need for effective immunotherapeutic strategies against multidrug-resistant pathogens. By moving from mechanistic insights into IgG subclass functions to the practical development of cross-protective monoclonal antibodies, the researcher demonstrates a logical progression from basic immunological understanding to potential clinical application.

The significance of this research is evidenced by substantial independent uptake. With 27 citations for the core paper and 8 for the follow-up, the work has attracted attention from the broader scientific community. Notably, 96.1% of the 777 citing papers classified for this scholar originate from independent researchers, indicating that these findings have resonated beyond the immediate institutional circle and influenced external research directions.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 33 · **1 flagged influential by Semantic Scholar**

CORE PAPER

The Role of IgG Subclass in Antibody-Mediated Protection against Carbapenem-Resistant Klebsiella pneumoniae

2020 · mBio · 27 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Tau-targeting therapies for Alzheimer disease: current status and future directions (2023)	New York University Grossman School of Medicine	United States	—
2	Hypervirulent and carbapenem-resistant Klebsiella pneumoniae: A global public health threat (2024)	Dali University, First Affiliated Hospital of Dali University	China	—
3	Klebsiella pneumoniae: adaptive immune landscapes and vaccine horizons (2023)	Washington University School of Medicine	United States	—
4	LPS O Antigen Plays a Key Role in Klebsiella pneumoniae Capsule Retention. (2022)	Imperial College London, Monash University, University of Melbourne at the Peter Doherty Institute for Infection and Immunity	Australia, United Kingdom	—
5	Single domain antibodies targeting pathological tau protein: Influence of four IgG subclasses on efficacy and toxicity (2022)	Michigan State University, New York University Grossman School of Medicine	United States	—
6	Host defense against the infection of (2022)	China Three Gorges University	China	—
7	Interaction of multidrug-resistant hypervirulent (2023)	Hackensack Meridian Health, National Institutes of Health, Taipei Veterans General Hospital	China, Taiwan, United States	—
8	Mechanisms, therapeutic strategies, and emerging therapeutic alternatives for carbapenem resistance in Gram-negative bacteria. (2025)	Chouaib Doukkali University, Hassan II University of Casablanca, Pasteur Institute	Morocco	—
9	Innate Host Defense against *Klebsiella pneumoniae* and the Outlook for Development of Immunotherapies (2022)	National Institutes of Health	United States	—
10	Overcoming Multi-Drug-Resistant (2025)	Tabriz University of Medical Sciences	Iran	—
11	Enhancing host defense against Brucella: The immune effect exerted by anti-OMP16 monoclonal antibody (2025)	Jiagedaqi District Livestock and Aquaculture Service Center, Northwest A&F University	China	—
12	Protection Against Pneumonia Induced by Vaccination with Fimbriae Subunits from Klebsiella pneumoniae (2025)	Instituto Butantan, Lund University, Universidade São Francisco	Brazil, Sweden	—

No.	Citing paper	Citing institution(s)	Country	S2
13	Klebsiella pneumoniae vaccines: Evolving the blueprint from traditional platforms to mucosal and nanoscale delivery (2026)	Shandong First Medical University & Shandong Academy of Medical Sciences, The First Affiliated Hospital of Shandong First Medical University & Shandong Provincial Qianfoshan Hospital	PR China	—
14	Co-Occurrence of Resistance to Aminoglycosides and Carbapenems in Klebsiella pneumoniae: A Critical Threat to Public Health (2026)	CECAPE College, Federal University of Pernambuco, Regional University of Cariri	Brazil, Poland	—
15	A Mosquito AgTRIO Monoclonal Antibody Reduces Early (2022)	Jiangsu University of Science and Technology, Yale University School of Medicine	China, United States	—
16	Mucosal administration of anti-bacterial antibodies provide long-term cross-protection against Pseudomonas aeruginosa respiratory infection (2023)	Inserm	France	—
17	Conserved molecular chaperone PrsA stimulates protective immunity against group A Streptococcus (2024)	Chang Gung University, National Taiwan University, The University of Queensland	Australia, Taiwan	—
18	Changes in Serum Immunoglobulin G Subclasses during the Treatment of Patients with Chronic Obstructive Pulmonary Disease with Infectious Exacerbations (2022)	Medical Military University, Military Hospital 103, Medical Military University, Military Hospital 175	Vietnam	—
19	Exploring the Polyclonal Antibody Responses Induced by Klebsiella pneumoniae Derived Outer-Membrane Vesicles (2024)	University of Cambridge	United Kingdom	—
20	Towards glycoconjugate vaccines against carbapenem-resistance Klebsiella pneumoniae (2022)	Max Planck Institute	Germany	—
21	Serum and antibiotic resistance of Klebsiella pneumoniae blood isolates (2021)	Aalborg University	Denmark	—
22	Overcoming Multi-Drug-Resistant Klebsiella pneumoniae Infections (2025)	Tabriz University of Medical Sciences	Iran	—
23	Anti-bacterial monoclonal antibodies: next generation therapy against superbugs (2022)	Shanghai Jiao Tong University	China	—
24	OMP16-targeting monoclonal antibodies H4 and E6 reveal essential linear epitopes for Brucella immunoprotection (2025)	Ministry of Agriculture, Northwest A&F University, North West Agriculture and Forestry University	China	—
25	Alternative Treatments Against Multi-Drug Resistant Klebsiella Pneumoniae	Iran University of Medical Sciences, Shahid Beheshti University of Medical Sciences, University of Science and Culture	Iran	—

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.

FOLLOW-UP WORK

Patient-Derived Antibody Data Yields Development of Broadly Cross-Protective Monoclonal Antibody against ST258 Carbapenem-Resistant Klebsiella pneumoniae

2022 · Microbiology Spectrum · 8 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Isolation, selection, and characterization of potent human monoclonal antibodies against pandrug-resistant ST147NDM-1 Klebsiella pneumoniae	Università degli Studi di Siena	Italy	—
2	Co-Occurrence of Resistance to Aminoglycosides and Carbapenems in Klebsiella pneumoniae: A Critical Threat to Public Health	CECAPE College, Federal University of Pernambuco, Regional University of Cariri	Brazil, Poland	—
3	Evaluating size exclusion chromatography for nucleic acid removal in Klebsiella pneumoniae cell surface polysaccharide purification	Stony Brook University, University of Georgia	United States	—
4	Hit 'em Where It Hurts: Gram-Negative Bacterial Lipopolysaccharide as a Vaccine Target. (2023)	University of Maryland School of Medicine	United States	—
5	Monoclonal antibodies protect against pandrug-resistant Klebsiella pneumoniae (2025)	AREA Science Park, Azienda Universitaria Ospedaliera Pisana, Fondazione Biotecnopolo di Siena	Australia, France, Italy	—
6	How to do things with words (1962)	—	—	—
7	Anti-capsule human monoclonal antibodies protect against hypervirulent and pandrug-resistant Klebsiella pneumoniae	AREA Science Park, Azienda Ospedaliera Universitaria Pisana, University of Pisa	Italy	—
8	Mechanisms, therapeutic strategies, and emerging therapeutic alternatives for carbapenem resistance in Gram-negative bacteria (2025)	Chouaib Doukkali University, Hassan II University of Casablanca, Pasteur Institute	Morocco	**Influential**

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 advanced monoclonal antibody-based therapies for bacterial infections, establishing a foundational framework widely adopted by the independent scientific community.

The researcher's contribution centers on the 2019 publication 'Monoclonal antibody-based therapies for bacterial infections' in Current Opinion in Infectious Diseases. This work serves as the core pillar of this specific line of inquiry, with no subsequent follow-up papers by the same author listed in the provided data. The titles indicate a focus on the application of monoclonal antibodies to combat bacterial pathogens, a domain traditionally dominated by antibiotic treatments. By addressing this area, the work appears to have introduced or consolidated critical perspectives on alternative therapeutic strategies, potentially filling a gap in the understanding of non-antibiotic interventions for bacterial infections. The significance of this contribution is evidenced by its substantial citation count of 177. More importantly, analysis of the broader citation landscape reveals that 96.1%

of citing papers originate from independent researchers, suggesting that the work has been widely recognized and utilized by the global scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 173 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Monoclonal antibody-based therapies for bacterial infections

2019 · Current Opinion in Infectious Diseases · 177 citations (GS)

Field-normalised: 93 Semantic Scholar citations place it in the top 5% of Medicine papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Origin of Antibiotics and Antibiotic Resistance, and Their Impacts on Drug Development: A Narrative Review (2023)	Ajman University, King Faisal University, King Saud University	Saudi Arabia, United Arab Emirates	—
2	Alternative therapeutic strategies to treat antibiotic-resistant pathogens (2023)	Genentech Inc.	United States	—
3	Antibiotic failure: Beyond antimicrobial resistance (2023)	University of British Columbia, University of Pennsylvania	Canada, United States	—
4	Antibiotic resistance in microbes: History, mechanisms, therapeutic strategies and future prospects (2021)	BGC Trust University Bangladesh, Dr. Koirala Research Institute for Biotechnology and Biodiversity, Indian Veterinary Research Institute	Bangladesh, Hungary, India	—
5	The Evolving Landscape of Antibody-Drug Conjugates: In Depth Analysis of Recent Research Progress. (2023)	ACS International India Pvt. Ltd., CAS, a Division of the American Chemical Society	India, United States	—
6	Alternative therapeutics to control antimicrobial resistance: a general perspective (2024)	University of Massachusetts Chan Medical School	United States	—
7	Antibiotic resistance in the patient with cancer: Escalating challenges and paths forward. (2021)	CARB-X, Duke University Medical Center, Infectious Diseases Society of America	United States	—
8	2023 Antibacterial agents in clinical and preclinical development: an overview and analysis (2024)	World Health Organization	Switzerland	—
9	Vaccines and monoclonal antibodies to prevent healthcare-associated bacterial infections. (2024)	CIRI - Centre International de Recherche en Infectiologie, University Hospital of Saint-Etienne	France	—
10	Fighting Antimicrobial Resistance: Innovative Drugs in Antibacterial Research. (2025)	Medical School Berlin, Technische Universität Berlin	Germany	—
11	Renaissance of vancomycin: approaches for breaking antibiotic resistance in multidrug-resistant bacteria. (2020)	Heidelberg University, Heidelberg University Hospital	Germany	—
12	The threat of multidrug-resistant/extensively drug-resistant Gram-negative respiratory infections: another pandemic (2022)	University of Health Sciences and Pharmacy, Washington University School of Medicine	United States	—
13	Wall Teichoic Acid in Staphylococcus aureus Host Interaction (2020)	Amsterdam University Medical Center, University of Amsterdam, University of Tübingen	Germany, Netherlands	—

No.	Citing paper	Citing institution(s)	Country	S2
14	Discovery of highly neutralizing human antibodies targeting Pseudomonas aeruginosa (2023)	University of Cologne	Germany	—
15	Immunotherapies against human bacterial and fungal infectious diseases: A review. (2023)	Al Baha University, University of Hafr Al Batin, University of Kashmir	India, Saudi Arabia	—
16	Treatment of MRSA Infection: Where are We? (2024)	Chongqing University, University of Chinese Academy of Sciences	China	—
17	Antibiotic conjugates: Using molecular Trojan Horses to overcome drug resistance (2025)	First Affiliated Hospital of China Medical University, The First Affiliated Hospital of China Medical University, The First Hospital of China Medical University	China	—
18	Bacterial detection based on Förster resonance energy transfer (2024)	Jiangxi Agricultural University, Nanchang University	China	—
19	Antibodies to combat viral infections: development strategies and progress (2022)	École polytechnique fédérale de Lausanne (EPFL), University of Lausanne and Lausanne University Hospital	Switzerland	—
20	Monoclonal Antibodies as a Therapeutic Strategy against Multidrug-Resistant Bacterial Infections in a Post-COVID-19 Era (2024)	mProbe Taiwan Inc., National Defense Medical Center	Taiwan	—
21	Agnostic B cell selection approach identifies antibodies against K. pneumoniae that synergistically drive complement activation (2024)	Genmab, UMC Utrecht, University Medical Center Utrecht	Austria, Netherlands	—
22	2019 Antibacterial agents in clinical development: an analysis of the antibacterial clinical development pipeline (2020)	World Health Organization	Switzerland	—
23	Understanding and controlling the molecular mechanisms of protein aggregation in mAb therapeutics (2023)	Agency for Science, Technology and Research (A*STAR), ETH Zurich, University of Cambridge	Singapore, Switzerland, United Kingdom	—
24	Antibody-Based Immunotherapies as a Tool for Tackling Multidrug-Resistant Bacterial Infections (2022)	Universidade de Lisboa	Portugal	—
25	Inhalable nanoparticle-based delivery systems for the treatment of pulmonary infections: (2025)	Jinan University, Sun Yat-sen University	PR China	—
26	Antibody-antibiotic conjugate targeted therapy for orthopedic implant-associated intracellular S. aureus infections (2024)	The First Affiliated Hospital of Chongqing Medical University	China	—
27	Monoclonal antibody therapeutics for infectious diseases: Beyond normal human immunoglobulin (2022)	National Institutes of Biomedical Innovation, Health and Nutrition	Japan	—
28	Isolation and characterization of a protective monoclonal antibody targeting outer membrane protein (OmpA) against tuberculosis. (2025)	China Agricultural University, Harbin Veterinary Research Institute	China	—

No.	Citing paper	Citing institution(s)	Country	S2
29	Mechanism-guided strategies for combating antibiotic resistance. (2024)	Nanjing Agricultural University	PR China	—
30	Anti-bacterial monoclonal antibodies: next generation therapy against superbugs. (2022)	Shanghai Jiao Tong University	China	—

Showing the 30 most-cited of 173 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.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Nebraska Medical Center	United States	SCImago #1778 · THE 501–600	31
Midnapore College	India	—	12
Manipal Academy of Higher Education	India	THE 601–800	12
University of La Rioja	Spain	—	12
University of Zaragoza	Spain	THE 1001–1200	12
Vidyasagar College	India	—	12
Lund University	Sweden	THE =95 · QS =72	8
Iowa State University	United States	SCImago #897 · THE 401–500 · QS 449	8
National Institutes of Health	United States	SCImago #44	8
University Medical Center Utrecht	Netherlands	SCImago #479	6
Stony Brook University	United States	SCImago #993 · THE 301–350	5
Hainan Medical University	China	SCImago #8043	5
University of California San Diego	United States	SCImago #120 · THE 47 · QS 66	5
Juntendo University	Japan	SCImago #2134 · THE 501–600	5
Tehran University of Medical Sciences	Iran	SCImago #701 · THE 501–600	5

Geographic distribution of citing authors

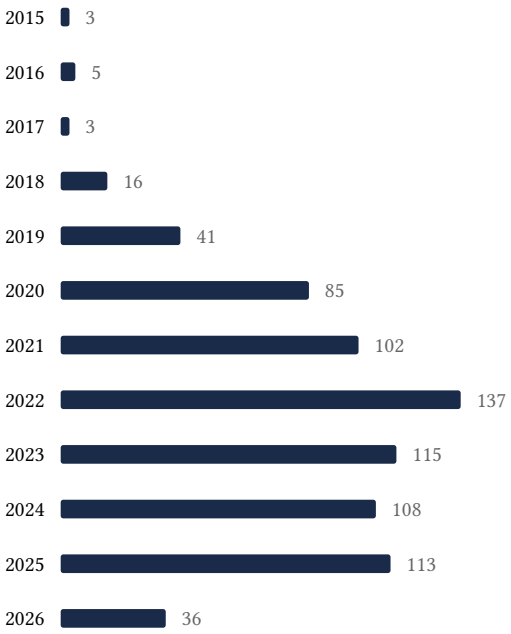
Country	Citing papers
China	184
United States	180
India	55
Italy	40
Spain	32
Germany	30
United Kingdom	24
Japan	23
Iran	19

Country	Citing papers
Netherlands	17
Canada	15
Portugal	15

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	Emerging trends in the immunotherapy of pancreatic cancer	140	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	The Role of IgG Subclass in Antibody-Mediated Protection against Carbapenem-Resistant Klebsiella pneumoniae	33	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Monoclonal antibody-based therapies for bacterial infections	173	8 CFR 204.5(h)(3)(v) — Criterion 5