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

393	435	26	11
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.

86.8% independent of 341 classified citing papers

Citation type	Count
Independent	296
Self-citation	6
Co-author	39
Same-institution	0

52 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 pioneered bile acid-based conjugate strategies for targeted breast cancer therapy, establishing a foundational framework for localized drug delivery and exploring broader gastrointestinal cancer mechanisms.

CLAIM: The researcher's contribution centers on the design and mechanistic investigation of bile acid–tamoxifen conjugates for breast cancer therapy, as detailed in a 2013 core paper. This work serves as the anchor for a subsequent line of inquiry into targeted delivery systems and cancer progression mechanisms.

ORIGINALITY: This line of work appears to address the challenge of targeted drug delivery by leveraging bile acids as vectors. The chronology suggests an expansion from specific conjugate design to broader applications, including the development of injectable hydrogel nanocarriers for sustained delivery and an examination of bile acid cross-talk in gastrointestinal cancer progression.

SIGNIFICANCE: The core paper has garnered 65 citations, while follow-up studies on hydrogel carriers and gastrointestinal mechanisms have received 93 and 74 citations, respectively. With 87.3% of citing papers originating from independent researchers, this indicates substantial external validation and broad adoption of these delivery strategies within the scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 162

CORE PAPER

Design, synthesis, and mechanistic investigations of bile acid–tamoxifen conjugates for breast cancer therapy

2013 · Bioconjugate Chemistry 24 (9), 1468-1484, 2013 · 65 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Bile acids and bile acid derivatives: use in drug delivery systems and as therapeutic agents	—	—	—
2	Ursodeoxycholic acid and cancer: From chemoprevention to chemotherapy	—	—	—
3	Engineering of small-molecule lipidic prodrugs as novel nanomedicines for enhanced drug delivery	—	—	—
4	Naringenin in Si-Ni-San formula inhibits chronic psychological stress-induced breast cancer growth and metastasis by modulating estrogen metabolism …	Guangzhou University of Chinese Medicine	China	—
5	Mitochondrial metabolism blockade nanoadjuvant reversed immune-resistance microenvironment to sensitize albumin-bound paclitaxel-based chemo …	Wenzhou Medical University	China	—
6	The anticancer activity of bile acids in drug discovery and development	—	—	—
7	Indoxylsulfate, a metabolite of the microbiome, has cytostatic effects in breast cancer via activation of AHR and PXR receptors and induction of oxidative stress	University of Debrecen	Hungary	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Natural lipids enriched self-nano-emulsifying systems for effective co-delivery of tamoxifen and naringenin: systematic approach for improved breast cancer …	National Institute of Pharmaceutical Education and Research, Panjab University	India	—
9	The involvement of oncobiosis and bacterial metabolite signaling in metastasis formation in breast cancer	University of Debrecen	Hungary	—
10	Design and strategies for bile acid mediated therapy and imaging	Michigan State University	United States	—
11	Drug conjugates—an emerging approach to treat breast cancer	—	—	—
12	Exploiting the bile acid binding protein as transporter of a Cholic Acid/Mirin bioconjugate for potential applications in liver cancer therapy	University of Siena	Italy	—
13	Promising applications of steroid conjugates for cancer research and treatment	Institute of Biomedical Chemistry	Russia	—
14	Bile acid conjugates with anticancer activity: most recent research	University of Ferrara	Italy	—
15	The apoptosis effect on liver cancer cells of gold nanoparticles modified with lithocholic acid	—	—	—
16	Bile Acid-conjugate as a promising anticancer agent: recent progress	—	—	—
17	Lithocholic acid conjugated mPEG-b-PCL micelles for pH responsive delivery to breast cancer cells	Middle East Technical University	Turkey	—
18	A “Trojan Horse” strategy: the preparation of bile acid-modifying irinotecan hydrochloride nanoliposomes for liver-targeted anticancer drug delivery system …	Chengdu University of Traditional Chinese Medicine	China	—
19	Research progress in the application of bile acid-drug conjugates: A “trojan horse” strategy	Chengdu University of Traditional Chinese Medicine	China	—
20	Gut metabolite indoxyl sulfate has selective deleterious and anticancer effect on colon cancer cells	National Institute of Immunology	India	—
21	Effective cellular internalization, cell cycle arrest and improved pharmacokinetics of Tamoxifen by cholesterol based lipopolymeric nanoparticles	Birla Institute of Technology and Science	India	—
22	Metabolite profiling of traditional Chinese medicine XIAOPI formula: an integrated strategy based on UPLC-Q-Orbitrap MS combined with network …	Guangzhou University of Chinese Medicine	China	—
23	BMV and CCMV-Based Viral Nanoparticles for Delivery of N-Desmethyl-Tamoxifen as Treatment of Triple-Negative Breast Cancer	—	—	—
24	Cholyl 1, 3, 4-oxadiazole hybrid compounds: design, synthesis and antimicrobial assessment	Al-Ahliyya Amman University, University of Jordan	Jordan	—

No.	Citing paper	Citing institution(s)	Country	S2
25	Dihydroartemisinin–bile acid hybridization as an effective approach to enhance dihydroartemisinin anticancer activity	—	—	—
26	Design, synthesis and molecular modelling studies of bile acid-curcumin conjugates as potential antiproliferative agents for breast cancer	—	—	—
27	Protein regulation and Apoptotic induction in human breast carcinoma cells (MCF-7) through lectin from G. beauts	Bharathiar University, Periyar University, Shanghai Jiao Tong University	China, India	—
28	Anticancer activity and molecular mechanisms of an ursodeoxycholic acid methyl Ester-dihydroartemisinin hybrid via a triazole linkage in hepatocellular ...	National Taiwan University, University of Ferrara	Italy, Taiwan	—
29	Synthesis and evaluation of bile acid amides of -cyanostilbenes as anticancer agents	—	—	—
30	Topologically inferring pathway activity for precise survival outcome prediction: breast cancer as a case	—	—	—

Showing the 30 most-cited of 38 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

Injectable small molecule hydrogel as a potential nanocarrier for localized and sustained in vivo delivery of doxorubicin

2014 · Nanoscale 6 (21), 12849-12855, 2014 · 93 citations (GS)

Field-normalised: 69 Semantic Scholar citations place it in the top 10% of Materials Science papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Peptide-functionalized,-assembled and-loaded nanoparticles in cancer therapy	Erciyes University, National University of Singapore, Northwest Missouri State University	Singapore, Turkey, United States	—
2	Injectable hydrogel-based drug delivery systems for local cancer therapy	Tehran University of Medical Sciences, University of Manitoba	Canada, Iran	—
3	Nanocarrier-based systems for targeted and site specific therapeutic delivery	Oregon State University, Rutgers, The State University of New Jersey	United States	—
4	Smart injectable hydrogels for cancer immunotherapy	—	—	—
5	Self-assembly, bioactivity, and nanomaterials applications of peptide conjugates with bulky aromatic terminal groups	—	—	—
6	Peptide self-assembled nanocarriers for cancer drug delivery	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Physical strategies to engineer supramolecular composite hydrogels for advanced biomedical applications	Shanghai Jiao Tong University	China	—
8	Design of gel structures in water and oil phases for improved delivery of bioactive food ingredients	—	—	—
9	Anticancer drug-loaded hydrogels as drug delivery systems for the local treatment of glioblastoma	UCLouvain	Belgium	—
10	Polysaccharide and polypeptide based injectable thermo-sensitive hydrogels for local biomedical applications	National Taiwan University of Science and Technology, National Taiwan University of Science & Technology	Taiwan	—
11	Functional electrospun fibers for local therapy of cancer	—	—	—
12	Release of small bioactive molecules from physical gels	—	—	—
13	Hydrogels that listen to cells: a review of cell-responsive strategies in biomaterial design for tissue regeneration	Maastricht University	Netherlands	—
14	Supramolecular fluorescent hydrogelators as bio-imaging probes	Shanghai Jiaotong University, Shanghai Jiao Tong University	China	—
15	Injectable hydrogels for cancer therapy over the last decade	University of Calabria	Italy	—
16	Ultrashort peptide self-assembly: front-runners to transport drug and gene cargos	Amity University	—	—
17	Supramolecular tubustecan hydrogel as chemotherapeutic carrier to improve tumor penetration and local treatment efficacy	—	—	—
18	Recent Advances in Smart Self-Assembled Bioinspired Hydrogels: A Bridging Weapon for Emerging Health Care Applications from Bench to Bedside	—	—	—
19	All-small-molecule dynamic covalent gels with antibacterial activity by boronate-tannic acid gelation	East China Normal University, South China University of Technology	China	—
20	Impact of atorvastatin loaded exosome as an anti-glioblastoma carrier to induce apoptosis of U87 cancer cells in 3D culture model	Kashan University of Medical Sciences, Tehran University of Medical Sciences	Iran	—
21	Multifunctional electrospun nanofibers for enhancing localized cancer treatment	—	—	—
22	Does local drug delivery still hold therapeutic promise for brain cancer? A systematic review	Cardiff University, UCLouvain	Belgium, United Kingdom	—
23	Injectable magnetic supramolecular hydrogel with magnetocaloric liquid-conformal property prevents post-operative recurrence in a breast cancer model	Nanjing Medical University, Nanjing University of Chinese Medicine, Southeast University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
24	The π–π stacking-guided supramolecular self-assembly of nanomedicine for effective delivery of antineoplastic therapies	—	—	—
25	Self-assembled sustainable bionanocomposite hydrogels from chitosan for the combination chemotherapy of hydrophobic and hydrophilic drugs	University of Kerala	India	—
26	Injectable nanoengineered stimuli-responsive hydrogels for on-demand and localized therapeutic delivery	—	—	—
27	Intra-articular injection of kartogenin-conjugated polyurethane nanoparticles attenuates the progression of osteoarthritis	—	—	—
28	Development of nanoparticle loaded microneedles for drug delivery to a brain tumour resection site	University of Nottingham	United Kingdom	—
29	Coiled-coil protein hydrogels engineered with minimized fiber diameters for sustained release of doxorubicin in triple-negative breast cancer	New York University Tandon School of Engineering	United States	—
30	Development of nanosilver embedded injectable liquid crystalline hydrogel from alginate and chitosan for potent antibacterial and anticancer applications	University of Kerala	India	—

Showing the 30 most-cited of 71 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

Cross-talk between bile acids and gastrointestinal tract for progression and development of cancer and its therapeutic implications

2015 · IUBMB life 67 (7), 514-523, 2015 · 74 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Carcinogenic and anticancer activities of microbiota-derived secondary bile acids	Azad University, Tehran Medical Sciences, Islamic Azad University North Tehran Branch, Kermanshah University of Medical Science	Germany, Iran	—
2	Diet, microbiome, and epigenetics in the era of precision medicine	National Cancer Institute, National Center for Complementary and Integrative Health, National Institute of Drug Abuse	United States	—
3	Regulation of bile acid metabolism-related signaling pathways by gut microbiota in diseases	Affiliated Suzhou Hospital of Nanjing Medical University, Suzhou Municipal Hospital, Southeast University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
4	Impact of bacterial metabolites on gut barrier function and host immunity: a focus on bacterial metabolism and its relevance for intestinal inflammation	—	—	—
5	The role of intestinal microbes on intestinal barrier function and host immunity from a metabolite perspective	—	—	—
6	Deoxycholic acid induces gastric intestinal metaplasia by activating STAT3 signaling and disturbing gastric bile acids metabolism and microbiota	—	—	—
7	Secondary bile acids and tumorigenesis in colorectal cancer	Longhua Hospital, Shanghai University of Traditional Chinese Medicine	China	—
8	Key stress response mechanisms of probiotics during their journey through the digestive system: a review	—	—	—
9	The roles of microbial products in the development of colorectal cancer: a review	—	—	—
10	Bile salts: unlocking the potential as bio-surfactant for enhanced drug absorption	—	—	—
11	Bile acid: a potential inducer of colon cancer stem cells	—	—	—
12	Bile acids and bile acid derivatives: use in drug delivery systems and as therapeutic agents	—	—	—
13	Bile acids and cancer: direct and environmental-dependent effects	Albert Einstein College of Medicine, University of Bari Aldo Moro	Italy, United States	—
14	Farnesoid-X receptor as a therapeutic target for inflammatory bowel disease and colorectal cancer	—	—	—
15	Serum Metabolite Profile in Progressive Versus Nonprogressive Alcohol-Related Liver Disease: A Cross-Sectional Metabolomics Study	University of Eastern Finland	Finland	—
16	The link between the gut microbiome and bone metastasis	Constantine the Philosopher University in Nitra	Slovakia	—
17	Gut microbiota-mediated elevated production of secondary bile acids in chronic unpredictable mild stress	—	—	—
18	Current concepts in probiotic safety and efficacy	National Research Tomsk State University	Russia	—
19	Metformin inhibits lithocholic acid-induced interleukin 8 upregulation in colorectal cancer cells by suppressing ROS production and NF-kB activity	Southern Medical University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
20	The intestinal microbial metabolite acetyl l-carnitine improves gut inflammation and immune homeostasis via CADM2	Peking Union Medical College Hospital	China	—
21	Gut dysbiosis and abnormal bile acid metabolism in colitis-associated cancer	People's Hospital of Xinjiang Uygur Autonomous Region	China	—
22	Identification of mitochondrial-related prognostic biomarkers associated with primary bile acid biosynthesis and tumor microenvironment of hepatocellular …	Union Hospital, Tongji Medical College, Huazhong University of Science and Technology	China	—
23	Lithocholic acid stimulates IL-8 expression in human colorectal cancer cells via activation of Erk1/2 MAPK and suppression of STAT3 activity	—	—	—
24	Alkaloids of dendrobium nobile lindl. Altered hepatic lipid homeostasis via regulation of bile acids	Philadelphia College of Osteopathic Medicine, Shanghai University of Traditional Chinese Medicine, Zunyi Medical University	China, United States	—
25	TGR5-HNF4α axis contributes to bile acid-induced gastric intestinal metaplasia markers expression	—	—	—
26	GATA4 forms a positive feedback loop with CDX2 to transactivate MUC2 in bile acids-induced gastric intestinal metaplasia	—	—	—
27	Meat intake, meat cooking methods, and meat-derived mutagen exposure and risk of sessile serrated lesions	—	—	—
28	Middle-distance running acutely influences the concentration and composition of serum bile acids: Potential implications for cancer risk?	University of Verona	Italy	—
29	Distinctive duodenal microbiomes and bile acid profiles in duodenal tumor patients revealed by prospective observational study	—	—	—
30	Enhancing cellulose functionalities by size reduction using media-mill	—	—	—

Showing the 30 most-cited of 53 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 pioneered the design and mechanistic analysis of lithocholic acid amphiphiles for colon cancer therapy, establishing a foundational framework for bile acid-based anticancer agents.

The researcher's core contribution rests on the 2015 paper detailing the synthesis, structure–activity relationship, and mechanistic investigation of lithocholic acid amphiphiles for colon cancer therapy. This work appears to have established a novel chemical platform for targeting colon cancer using modified bile acids.

This line of work addresses the need for targeted therapeutic agents by exploring the specific structural properties of amphiphilic bile acids. The subsequent 2017 follow-up paper, which examines the role of hydrophobic and hydrophilic bile acids in angiogenesis, suggests the researcher expanded this initial framework to understand broader biological mechanisms, such as blood vessel formation, in both in vitro and in vivo models.

The significance of this research is evidenced by substantial independent uptake. With 37 citations for the core paper and 34 for the follow-up, the work has attracted sustained attention. Notably, 87.3% of the 339 classified citations for this scholar originate from independent researchers, indicating that the broader scientific community, rather than just the researcher's immediate circle, has engaged with and built upon these findings.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 48

CORE PAPER

Synthesis, structure–activity relationship, and mechanistic investigation of lithocholic acid amphiphiles for colon cancer therapy

2015 · MedChemComm 6 (1), 192-201, 2015 · 37 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Bile acids and bile acid derivatives: use in drug delivery systems and as therapeutic agents	—	—	—
2	Bile acid-inspired oral small molecules drug delivery	Korea National University of Transportation, Michigan State University	South Korea, United States	—
3	Ursodeoxycholic acid and cancer: From chemoprevention to chemotherapy	—	—	—
4	The anticancer activity of bile acids in drug discovery and development	—	—	—
5	Bile Acid-conjugate as a promising anticancer agent: recent progress	—	—	—
6	Role of bile acids in colon carcinogenesis	—	—	—
7	Synthesis of new cisplatin derivatives from bile acids	University of Białystok, University of Warsaw	Poland	—
8	The synthesis and antitumor activity of lithocholic acid and its derivatives	East China Normal University	China	—
9	Microbiota metabolite lithocholic acid in cancer: Mechanisms and therapeutic potential	—	—	—
10	Protoscolicidal effects of chenodeoxycholic acid on protoscoleces of Echinococcus granulosus	Lanzhou University, Shihezi University	China, P. R. China	—
11	Supramolecular gels from conjugates of bile acids and amino acids and their applications	—	—	—
12	Novel 3, 4-seco bile acid diamides as selective anticancer proliferation and migration agents	Northwest A&F University, Northwest University	China	—
13	Synthesis of a cisplatin derivative from lithocholic acid	University of Białystok	Poland	—
14	In vitro protoscolicidal effects of lithocholic acid on protoscoleces of Echinococcus granulosus and its mechanism	Chengdu Medical College, Shihezi University	China, P. R. China	—

No.	Citing paper	Citing institution(s)	Country	S2
15	Isolation and structural elucidation of two new labdane diterpenoids from the aerial part of Roylea cinerea	Indian Institute of Technology Mandi	India	—
16	Asociación entre los niveles elevados de ácidos biliares y cáncer digestivo	—	—	—

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

Deciphering the role of hydrophobic and hydrophilic bile acids in angiogenesis using in vitro and in vivo model systems

2017 · Medchemcomm 8 (12), 2248-2257, 2017 · 35 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Lithocholic acid conjugated mPEG-b-PCL micelles for pH responsive delivery to breast cancer cells	Middle East Technical University	Turkey	—
2	Bile acids: physiological activity and perspectives of using in clinical and laboratory diagnostics	Federal Medical-Biological Agency	Russia	—
3	Synthesis of new cisplatin derivatives from bile acids	University of Białystok, University of Warsaw	Poland	—
4	Bile acids and their receptors in regulation of gut health and diseases	Chinese Academy of Sciences, Henan University of Technology, Sichuan Agricultural University	China	—
5	A recent ten-year perspective: bile acid metabolism and signaling	Institute of Biomedical Chemistry	Russia	—
6	Gut microbiota: A novel strategy affecting atherosclerosis	—	—	—
7	Alterations in gut microbiota and metabolites associated with altitude-induced cardiac hypertrophy in rats during hypobaric hypoxia challenge	—	—	—
8	The emerging role of bile acids as critical components in nanotechnology and bioengineering: Pharmacology, formulation optimizers and hydrogel-biomaterial ...	Curtin University, University of Novi Sad	Australia, Serbia	—
9	Nutrition and gastrointestinal microbiota, microbial-derived secondary bile acids, and cardiovascular disease	—	—	—
10	Undernutrition shapes the gut microbiota and bile acid profile in association with altered gut-liver FXR signaling in weaning pigs	Chinese Academy of Sciences, Henan University of Technology	China	—
11	Chronic alcohol consumption increased bile acid levels in enterohepatic circulation and reduced efficacy of irinotecan	Guangzhou University of Chinese Medicine	China	—

No.	Citing paper	Citing institution(s)	Country	S2
12	Glycine-conjugated bile acids protect RPE tight junctions against oxidative stress and inhibit choroidal endothelial cell angiogenesis in vitro	Vanderbilt University Medical Center	United States	—
13	Advances in the recognition strategies and analytical techniques of bile acids	Nanjing Tech University	China	—
14	TGR5 receptor activation attenuates diabetic retinopathy through suppression of RhoA/ROCK signaling	—	—	—
15	Cholic acid as a treatment for cerebrotendinous xanthomatosis: a comprehensive review of safety and efficacy	—	—	—
16	Bile acid-induced lung injury: update of reverse translational biology	—	—	—
17	Taurocholic acid inhibits features of age-related macular degeneration in vitro	Vanderbilt University Medical Center	United States	—
18	The resilient microbiome: how baseline gut microbial composition influences response to cancer treatment	—	—	—
19	Angiogenesis, a key point in the association of gut microbiota and its metabolites with disease	—	—	—
20	Metabolomics and network pharmacology exploration of the effects of bile acids on carotid atherosclerosis and potential underlying mechanisms	—	—	—
21	Development of biomaterials for bone tissue engineering based on bile acids	—	—	—
22	Inhibition of retinal neovascularization by Dendrobium polysaccharides: a review	—	—	—
23	Maternal vitamin A deficiency suppresses browning of white adipose tissue in offspring	—	—	—
24	Effect of Babao Dan on angiogenesis of gastric cancer in vitro by regulating VEGFA/VEGFR2 signaling pathway	—	—	—
25	Design, synthesis, computational and biological evaluation of novel structure fragments based on lithocholic acid (LCA)	City of Hope National Medical Center	United States	—
26	Biopolymers containing bile acid derivatives: Recent advances, material comparisons, and application prospects	—	—	—
27	Expression of flTF and asTF splice variants in various cell strains and tissues	—	—	—
28	Bile acid transporter as a bioinspired method for oral therapeutics delivery system	Korea National University of Transportation	South Korea	—
29	DNA methylation differences associated with prenatal air pollution exposure in developmentally relevant tissues from two North American birth cohorts	Texas A&M University	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
30	Infección por SARS-CoV-2, endotelitis y ácidos biliares: una visión integradora	—	—	—

Showing the 30 most-cited of 32 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 3

Claim — Contribution 3

The researcher identified fibulin-3 as a driver of pleural mesothelioma growth via PI3K/Akt signaling and extended this mechanism to glioblastoma immunosuppression.

The researcher established that the extracellular matrix protein fibulin-3 promotes pleural mesothelioma growth by activating PI3K/Akt signaling, as detailed in a 2022 core paper. This work identifies a specific molecular pathway linking fibulin-3 to tumor progression in mesothelioma.

This line of work appears to address the role of fibulin-3 in tumor microenvironments. The originality lies in connecting this protein to specific signaling pathways in mesothelioma and subsequently exploring its broader impact on immune signaling in glioblastoma, as indicated by the 2025 follow-up paper.

The core paper has garnered 14 citations, suggesting initial recognition. Furthermore, analysis of the researcher's broader citation record shows that 87.3% of citing papers originate from independent researchers, indicating that this specific contribution is part of a body of work that has attracted significant external scholarly attention.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 13

CORE PAPER

The extracellular matrix protein fibulin-3/EFEMP1 promotes pleural mesothelioma growth by activation of PI3K/Akt signaling

2022 · Frontiers in Oncology 12, 1014749, 2022 · 14 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Emerging paradigms and recent progress in targeting ErbB in cancers	—	—	—
2	Malignant mesothelioma tumours: molecular pathogenesis, diagnosis, and therapies accompanying clinical studies	—	—	—
3	Pleural mesothelioma: advances in blood and pleural biomarkers	University of Insubria	Italy	—
4	Malignant pleural mesothelioma: from pathophysiology to innovative actionable targets	—	—	—
5	Circulating Biomarkers and Targeted Therapy in Pleural Mesothelioma	—	—	—
6	Pleural Mesothelioma: Pathogenesis, Diagnosis, Treatment, Prognosis, and Survival	—	—	—
7	Fibulin-3 in plasma and pleural effusion as a biomarker of mesothelioma	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
8	Advances in targeted therapy for malignant pleural mesothelioma	Second Affiliated Hospital of Nanjing Medical University	People's Republic of China	—
9	Uncovering urinary proteogenomic signatures associated with head and neck squamous cell carcinoma	Universidade do Porto, University of Aveiro, University of Trento	Italy, Portugal	—
10	Microgravity as a Tool to Investigate Cancer Induction in Pleura Mesothelial Cells	University of Verona	Italy	—
11	Knockdown of EFEMP1 Promotes Ferroptosis by Inactivating PI3K/AKT to overcome the Resistance of Hepatocellular Carcinoma Cells to Sorafenib	—	—	—
12	Xanthohumol inhibits osteosarcoma proliferation, migration, and invasion via EFEMP1/PI3K/AKT axis	Shanxi Medical University	China	—

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

Inhibition of extracellular matrix protein fibulin-3 reduces immunosuppressive signaling and increases macrophage activation in glioblastoma

2025 · Cancer Research Communications 5 (9), 1599-1610, 2025 · 1 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Neurosurgery as an immune anchor point: a translational framework for perioperative immunoengineering	—	—	—

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
Broad Institute of MIT and Harvard	United States	SCImago #112	8
Sri Sathya Sai Institute of Higher Learning	India	—	5
St. Joseph's Hospital and Medical Center	United States	—	5
Adam Mickiewicz University in Poznań	Poland	—	4
Shanghai Jiao Tong University	China	SCImago #10 · THE 40 · QS =47	4
Tehran University of Medical Sciences	Iran	SCImago #701 · THE 501–600	3
Institute of Biomedical Chemistry	Russia	SCImago #5850	3

Institution	Country	World ranking	Citing papers
Chinese Academy of Sciences	China	SCImago #2	3
East China Normal University	China	SCImago #769 · THE 251–300 · QS =433	3
Shihezi University	P. R. China	SCImago #2733	3
Southeast University	China	THE 251–300 · QS =392	3
UCLouvain	Belgium	—	3
National Institute of Pharmaceutical Education and Research	India	SCImago #5025	3
Guangzhou University of Chinese Medicine	China	—	3
University of Ferrara	Italy	SCImago #2059 · THE 501–600 · QS 951-1000	2

Geographic distribution of citing authors

Country	Citing papers
China	48
United States	41
India	20
Italy	12
Poland	7
United Kingdom	6
Russia	6
South Korea	4
Portugal	4
Hungary	4
Iran	4
P. R. China	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.

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).

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	Design, synthesis, and mechanistic investigations of bile acid–tamoxifen conjugates for breast cancer therapy	162	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	Synthesis, structure–activity relationship, and mechanistic investigation of lithocholic acid amphiphiles for colon cancer therapy	48	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	The extracellular matrix protein fibulin-3/EFEMP1 promotes pleural mesothelioma growth by activation of PI3K/Akt signaling	13	8 CFR 204.5(i)(3) — Outstanding Researcher