MCP SERVER | NO CODE | CLOUD HOSTED

PubMed MCP

Access 37M+ biomedical articles from your chat.

PubMed MCP gives your AI client direct access to the National Library of Medicine's database, pulling 37 million+ biomedical articles. Use it to search research by keyword or disease, instantly grab full article details from a PMID, and trace which papers cite specific research. It's deep scientific literature retrieval, built for researchers and clinical writers.

A+ Quality Score 100/100

biomedical-research | literature-search | citation-tracking | medical-database

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

PubMed MCP

3 tools available
Cloud-hosted on Vinkius

This MCP connects your AI agent directly to PubMed, the gold standard source for biomedical and life sciences literature. You can ask your client to find primary research using complex search terms like boolean operators (AND/OR/NOT) across tens of millions of articles. When you find a key paper, you don't have to navigate separate web pages; you simply request the full details, getting abstracts, all authors, and specific MeSH descriptors right away. Better yet, if that article is foundational, your agent can track down every subsequent study that cited it, mapping out how research evolves over time. It's a massive shortcut for anyone who needs reliable scientific evidence quickly, giving you access to the entire catalog of tools hosted on Vinkius without needing an API key or manual data extraction.

Core Capabilities

01 — Search literature by topic

Your agent executes targeted searches across millions of articles using keywords, disease names, and complex boolean logic.

02 — Retrieve full article metadata

You get a comprehensive data dump for any specific paper, including the abstract, journal name, DOI, and author list.

03 — Track research impact

The MCP identifies all later papers that built on or referenced a foundational piece of science.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/pubmed** — connect your AI agent in three steps.

01 Connect your AI client to this MCP in the Vinkius catalog. No API key is needed.

02 Ask your agent to perform a search, providing keywords or a PMID. Your agent sends the query directly to PubMed.

03 The system returns structured data containing abstracts, author details, and citation lists for you to use.

The bottom line is you get reliable, complex scientific literature analysis without leaving your chat window or IDE.

Built For

Anyone who works with scientific evidence—biomedical researchers, clinical writers, and academic consultants. If your job involves reading peer-reviewed journals or needing to trace the lineage of a medical concept, you need this.

Biomedical Researcher

Needs to run complex literature reviews comparing gene therapies across multiple conditions and tracking foundational papers.

Scientific Writer

Must find primary source evidence for articles, ensuring every claim is backed by a specific PMID and full abstract.

Clinical Pharmacologist

Needs to quickly locate systematic reviews or treatment guidelines related to drug interactions by disease name.

What Changes When You Connect

01 You cut out hours of database clicking. Instead of navigating PubMed's complex web interface, you just tell your agent what you need, and it executes the search instantly.

02 When you find a key paper, you get full metadata immediately using get_pubmed_article. This means abstracts, every author, the DOI, and MeSH terms all in one clean output.

03 You can map out research history with ease. Use get_pubmed_citations to see which papers built on a landmark study—critical for academic reviews.

04 Complex search queries are simple. The search_pubmed tool handles boolean operators (AND, OR, NOT), letting you narrow results using precision language instead of keyword stuffing.

05 It works with your existing workflow. Whether it's Claude or Cursor, your agent sends the scientific query and gets structured data back for analysis.

Real-World Applications

Determining research gaps on a rare disease

A researcher asks their agent to search_pubmed for all articles citing 'Gene X' combined with 'Disease Y'. The MCP returns the top 20 papers, allowing the researcher to instantly see which aspects of the disease are over-researched and where the gaps lie.

Building a literature review on vaccine efficacy

A writer needs evidence for a claim. They run search_pubmed using 'Vaccine A AND Efficacy' to find initial papers, then use get_pubmed_article with the PMID to pull the full abstract and authors for their bibliography.

Tracking drug development over time

A pharmacologist inputs a foundational paper on Drug Z. The agent uses get_pubmed_citations, showing all subsequent research that has built upon Drug Z's initial findings, demonstrating the evolution of treatment.

Analyzing competing theories in oncology

A clinician needs to compare two treatments. They use search_pubmed with complex boolean logic ('Treatment A OR Treatment B') AND 'Outcome Measure C', getting a highly focused list that eliminates irrelevant background noise.

Patterns to Avoid

Treating PubMed like a general web search

✗ AVOID

Asking your agent to just 'search for cancer' and expecting the results to be comprehensive. This will return too much noise, mixing basic health articles with rigorous science.

✓ INSTEAD

You must use search_pubmed and provide specific scientific parameters (e.g., 'CRISPR AND Sickle Cell Disease'). Use boolean operators like AND or OR to limit scope and get actionable research.

Only getting titles, not the details

✗ AVOID

Relying solely on a search list view that only shows titles. You miss critical context like MeSH terms or the full abstract needed for proper citation.

✓ INSTEAD

After using search_pubmed to find promising PMIDs, always follow up by calling get_pubmed_article with the specific PMID. This pulls all the required metadata.

Missing the impact chain

✗ AVOID

Finding a breakthrough paper and stopping there. You don't know if the concept has been validated or debunked since that date.

✓ INSTEAD

Use get_pubmed_citations on the original PMID. This shows you all the follow-up research, giving you the full historical context of the finding.

The Right Fit

Use this MCP if your core task is rigorous scientific review or evidence gathering. Specifically, use it when you need to find articles by complex criteria (search_pubmed), confirm details about a single paper (get_pubmed_article), or map the intellectual history of an idea (get_pubmed_citations). Don't use it if you just need general health information or market trends; those require different tools. If your goal is simply to summarize Wikipedia articles, this MCP isn't for you. But if you are working in a clinical, academic, or deep R&D context, this connection provides the gold standard data source.

Manually tracking scientific literature is a brutal time sink.

Today, finding reliable medical evidence means hopping between databases. You pull up PubMed, run your search, then you get a list of titles and authors. To read the abstract, you click through; to find the MeSH terms, you hit another tab. If you need citation data, you have to manually track down the PMID for every single one and check if it was cited elsewhere.

With this MCP, your AI client handles all that clicking behind the scenes. You just state your query—'Show me all papers on X related to Y.' The agent returns structured data containing abstracts, full author lists, DOI, and citation tracking, giving you a comprehensive analysis without leaving your chat.

PubMed MCP delivers verifiable scientific evidence.

The most frustrating parts of the manual process are the small details: figuring out which papers cite a key work, or finding the specific MeSH terms that properly categorize a disease. You're constantly copying and pasting PMIDs just to check context.

Now you get structured data for free. Whether you use search_pubmed to find initial hits, or get_pubmed_citations to map influence, your agent gives you clean, reliable data ready for immediate analysis.

PubMed: Literature Search Tools (3)

These three tools let you find specific research papers, pull complete article data, or map out the academic lineage of a scientific finding.

#	TOOL	DESCRIPTION
01	`get_pubmed_article`	Retrieves all detailed metadata for a specific article when you provide its unique PMID number.
02	`get_pubmed_citations`	Finds and lists articles that reference or cite a given PubMed paper, mapping the research impact chain.
03	`search_pubmed`	Search PubMed for biomedical articles, returning titles, abstracts, DOIs, and MeSH terms using AND, OR, or NOT operators.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U Find recent research on CRISPR gene therapy for sickle cell disease.

Found 10 recent articles on CRISPR and sickle cell disease. Highlights include: 'CRISPR-Cas9 Gene Editing for Sickle Cell Disease and β-Thalassemia' (NEJM, 2023) — a landmark clinical trial showing 97% of patients free of vaso-occlusive crises after exa-cel infusion. PMID: 38040890. Full abstract and MeSH terms retrieved.

U Get complete details for PubMed article PMID 33782455.

Retrieved full data for PMID 33782455: 'SARS-CoV-2 variants of concern and variants of interest' by Harvey et al. Published in Nature Reviews Microbiology (2021). The abstract details the classification framework for emerging variants including Alpha, Beta, Gamma, and Delta. DOI: 10.1038/s41579-021-00573-0. MeSH Terms: COVID-19, SARS-CoV-2, Mutation, Spike Glycoprotein.

U Which papers cite the original CRISPR-Cas9 paper? Show me the top citing articles.

Found 10 citing articles for the landmark CRISPR paper. Top citations include applications in gene therapy, agricultural biotechnology, diagnostic systems (SHERLOCK/DETECTR), and base editing. Authors span institutions from MIT, Harvard, UC Berkeley, and the Broad Institute. Each result includes PMID, DOI, and full abstract.

Frequently Asked Questions

01 **How do I use the PubMed MCP to find papers on a specific disease?**

Use search_pubmed and include keywords like 'Disease Name AND Gene Symbol'. The tool supports powerful boolean operators, so you can narrow down results precisely.

02 **Can I get all author names from PubMed using the MCP?**

Yes. After finding a relevant PMID, calling get_pubmed_article retrieves comprehensive metadata that includes every contributing author and their affiliation.

03 **What is the difference between search_pubmed and get_pubmed_article?**

search_pubmed finds many articles based on keywords. get_pubmed_article pulls all the granular details for one specific article if you already have its PMID.

04 **How do I check which papers cite a landmark study?**

Use get_pubmed_citations, passing in the foundational paper's PMID. This tool maps out the entire impact chain and shows follow-up research.

05 **Do I need to provide an API key for PubMed MCP?**

No. Since this is hosted on Vinkius, you connect your preferred AI client once, and no keys or complex setup are required to access the database.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"pubmed": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

PubMed is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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