

Evaluation of LLMs with RAG for Factual Verification in the Biomedical Domain

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Model
Gemma-7b
Mistral-8b
Qwen-7b
Llama3-8b
Gemma2-9b-it
Llama-4-maverick-17b-128e
Llama-4-scout-17b-16e
Mistral-saba-24b
Deepseek-r1-distill-llama-70b
Llama-3.3-70b-versatile

III. Prompting with RAG

Knowledge Base (KB)
Melatonin is related to Acromegaly.
Melatonin is related to Hypotension.
Melatonin is related to Seizures .
Amoxicillin is related to Diarrhea.
Lithium is related to Nausea.
...

Query
Q1: Is it true that Melatonin is related to Seizures?
Q2: What diseases are Melatonin related to?

Document Retrieval

FAISS Retrieval: Effectively retrieves Top-K most semantically similar facts from the Knowledge Base using vector similarity (ANN search).
Top-K: Predefined as 1 for TFUQ and 30 for OEQ.

