

Full Search Strategy

Karanjin in Preclinical *In Vivo* Models: A Systematic Review of Therapeutic Efficacy, Mechanistic Pathways, Pharmacokinetics, Safety and Formulation Strategies

Date of Search: March 30, 2026

Databases Searched: PubMed, Scopus, Web of Science, ProQuest

1. SEARCH TERMS AND STRATEGY

The search strategy was designed to capture all preclinical animal studies investigating karanjin across multiple disease domains. Searches were conducted using controlled vocabulary (MeSH terms where applicable) and free-text keywords.

1.1 Search Terms by Database

1. PubMed/MEDLINE (via NCBI)

Search conducted: March 30, 2026

Concept 1: Karanjin/Compound

("karanjin"[Title/Abstract] OR "karanja"[Title/Abstract] OR "Pongamia pinnata"[Title/Abstract] OR "furanoflavonoid"[Title/Abstract] OR "furanoflavanoid"[Title/Abstract])

Concept 2: Animal Models/Preclinical

("in vivo"[Title/Abstract] OR "animal model"[Title/Abstract] OR "animal models"[Title/Abstract] OR "animal study"[Title/Abstract] OR "animal studies"[Title/Abstract] OR "preclinical"[Title/Abstract] OR "pre-clinical"[Title/Abstract] OR "rodent"[Title/Abstract] OR "rodents"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "zebrafish"[Title/Abstract] OR "Danio rerio"[Title/Abstract] OR "pharmacological"[Title/Abstract] OR "efficacy"[Title/Abstract] OR "biological studies"[Title/Abstract])

Concept 3: Disease Domains/Outcomes

("anticancer"[Title/Abstract] OR "anti-cancer"[Title/Abstract] OR "anti-inflammatory"[Title/Abstract] OR "antiinflammatory"[Title/Abstract] OR "antioxidant"[Title/Abstract] OR "neuroprotective"[Title/Abstract] OR "anti-diabetic"[Title/Abstract] OR "antidiabetic"[Title/Abstract] OR "cardioprotective"[Title/Abstract] OR "cardio-protective"[Title/Abstract] OR "dermatological"[Title/Abstract] OR "topical"[Title/Abstract] OR "toxicity"[Title/Abstract] OR "pharmacokinetic"[Title/Abstract] OR "pharmacokinetics"[Title/Abstract] OR "bioavailability"[Title/Abstract] OR "formulation"[Title/Abstract])

Combined Search Strategy:

(Concept 1) AND (Concept 2) AND (Concept 3)

Filters applied: Publication date: up to March 2026; Language: English; Article type: exclude reviews, editorials, commentaries, conference abstracts

2. Scopus (via Elsevier)

Search conducted: March 30, 2026

Search string:

(TITLE-ABS-KEY("karanjin" OR "karanja" OR "Pongamia pinnata" OR "furanoflavonoid" OR "furanoflavanoid")) AND (TITLE-ABS-KEY("in vivo" OR "animal model" OR "animal models" OR "animal study" OR "animal studies" OR "preclinical" OR "pre-clinical" OR "rodent" OR "rodents" OR "rat" OR "rats" OR "mouse" OR "mice" OR "zebrafish" OR "Danio rerio" OR "pharmacological" OR "efficacy" OR "biological studies")) AND (TITLE-ABS-KEY("anticancer" OR "anti-cancer" OR "anti-inflammatory" OR "antiinflammatory" OR "antioxidant" OR "neuroprotective" OR "anti-diabetic" OR "antidiabetic" OR "cardioprotective" OR "cardio-protective" OR "dermatological" OR "topical" OR "toxicity" OR "pharmacokinetic" OR "pharmacokinetics" OR "bioavailability" OR "formulation"))

Filters applied: Document type: Article; Language: English; Publication date: up to 2026

3. Web of Science (via Clarivate)

Search conducted: March 30, 2026

Search string:

TS=("karanjin" OR "karanja" OR "Pongamia pinnata" OR "furanoflavonoid" OR "furanoflavanoid") AND TS=("in vivo" OR "animal model" OR "animal models" OR "animal study" OR "animal studies" OR "preclinical" OR "pre-clinical" OR "rodent" OR "rodents" OR "rat" OR "rats" OR "mouse" OR "mice" OR "zebrafish" OR "Danio rerio" OR "pharmacological" OR "efficacy" OR "biological studies") AND TS=("anticancer" OR "anti-cancer" OR "anti-inflammatory" OR "antiinflammatory" OR "antioxidant" OR "neuroprotective" OR "anti-diabetic" OR "antidiabetic" OR "cardioprotective" OR "cardio-protective" OR "dermatological" OR "topical" OR "toxicity" OR "pharmacokinetic" OR "pharmacokinetics" OR "bioavailability" OR "formulation")

Filters applied: Document type: Article; Language: English; Timespan: 1900-2026

4. ProQuest (via ProQuest Central)

Search conducted: March 30, 2026

Search string:

ti("karanjin" OR "karanja" OR "Pongamia pinnata" OR "furanoflavonoid" OR "furanoflavanoid")

AND ab("in vivo" OR "animal model" OR "animal models" OR "animal study" OR "animal studies"
OR "preclinical" OR "pre-clinical" OR "rodent" OR "rodents" OR "rat" OR "rats" OR "mouse" OR
"mice" OR "zebrafish" OR "Danio rerio" OR "pharmacological" OR "efficacy" OR "biological
studies") AND ab("anticancer" OR "anti-cancer" OR "anti-inflammatory" OR "antiinflammatory"
OR "antioxidant" OR "neuroprotective" OR "anti-diabetic" OR "antidiabetic" OR
"cardioprotective" OR "cardio-protective" OR "dermatological" OR "topical" OR "toxicity" OR
"pharmacokinetic" OR "pharmacokinetics" OR "bioavailability" OR "formulation")

Filters applied: Source type: Scholarly Journals; Language: English; Publication date: up to 2026