



MANGO & GUT HEALTH:

Exploring Pathways Influencing How the Body Fuels & Functions

The gut is emerging as an important area of mango research – not only for digestive health, but as a potential upstream pathway connecting mango consumption with broader metabolic function.

Early research suggests fresh mango may influence digestive function and gut microbiome composition, while mechanistic studies point to potential effects on inflammation and other gut-related pathways.

The next opportunity is to understand whether these changes may help influence glucose and insulin dynamics, vascular function and metabolism after eating building the science behind mango's potential to support steady, sustained energy.

WHAT CURRENT RESEARCH SHOWS

The current human evidence examining mango and gut health includes interventions ranging from 4 to 12 weeks, with studies in adults with chronic constipation and adults with overweight/obesity. Research has explored digestive function, gut microbiome composition, gut permeability and inflammatory markers, while preclinical research suggests mango polyphenols may modulate inflammatory signaling pathways in the gut.

*While further research is necessary for broader applicability, these findings contribute to the growing evidence linking mango consumption to gut health.

HUMAN EVIDENCE

Mango may support digestive function while influencing the gut microbiome.

DIGESTIVE FUNCTION

In adults with chronic constipation, 300 g mango/day for 4 weeks improved stool frequency, consistency and shape beyond an equivalent amount of isolated fiber. Mango intake was also associated with changes in a short-chain fatty acid and select inflammatory markers.¹

GUT MICROBIOME

In adults with overweight/obesity, 100 kcal fresh mango/day was associated with differences in gut microbial diversity at 4 weeks and microbial community composition at 12 weeks compared with a low-fat cookie. No significant differences were observed in measured gut permeability proteins or most bowel function outcomes.²

These findings suggest potential effects on both digestive function and the microbial environment, while highlighting the need to better understand the mechanisms involved.

MECHANISTIC EVIDENCE

Mango polyphenols may influence gut pathways involved in inflammation and microbial activity.

INFLAMMATION & IMMUNE SIGNALING

Preclinical research suggests mango polyphenols may modulate inflammatory signaling in the gut, including pathways involved in inflammation and cellular regulation.³

POLYPHENOLS & CELLULAR PATHWAYS

Mango's potential gut effects may extend beyond fiber alone. Preclinical research suggests mango polyphenols may interact with inflammatory and cellular signaling pathways within the intestinal environment.⁴

These findings provide biological plausibility for effects observed in human studies, but additional clinical research is needed to determine their relevance to human health.

WHY THE GUT IS INTRIGUING FOR MANGO

The gut may be an upstream link between mango and metabolic health.

NMB's Research Roadmap identifies several interconnected gut axes that could help explain how mango influences how the body fuels and functions:

Cut–glucose axis

Glucose + insulin regulation

Cut–vascular axis

Vascular-related metabolites

Cut–immune axis

Inflammation + oxidative stress

Cut–metabolic axis

Metabolism after eating



Potential mango benefit:

Shaping how the body fuels + functions

The opportunity is to investigate whether gut-related effects may help explain mango's broader influence on metabolic function and support its naturally invigorating, sustained energy research territory.

AREAS OF INTEREST FOR FUTURE RESEARCH



CHARACTERIZE: Better define how mango influences microbiome composition and function and identify which changes are most biologically meaningful.



EXPAND: Prioritize populations with GI dysfunction, elevated inflammation or impaired gut permeability, where potential effects may be more detectable.



INVESTIGATE: Explore microbial metabolites, inflammatory pathways, gut-derived signaling and gut barrier integrity as potential mechanisms.



CONNECT: Examine gut outcomes alongside glucose, insulin and cardiovascular measures to determine whether gut changes may help explain mango's effects across interconnected metabolic pathways.

THE RESEARCH OPPORTUNITY

Could mango-induced changes in the gut help influence how the body fuels and functions?

Future research can move from identifying whether mango changes the gut to understanding whether those changes influence glucose regulation, circulation and other metabolic processes relevant to steady, sustained energy.

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