

Targeting the gut microbiota to improve western-diet induced neuropathic pain

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INTRODUCTION

Neuropathic pain, arising from damage or dysfunction in the peripheral or central nervous system, is a chronic condition that significantly impacts quality of life. Current treatments often mask pain without addressing its underlying causes, posing risks of addiction. Recent research highlights a link between gut microbiota and neuropathic pain, with studies showing that altering gut bacteria can reduce pain and enhance sensory neuron function. Short-chain fatty acids (SCFAs) produced by gut bacteria may modulate pain pathways by interacting with receptors in immune cells. This study aims to explore how manipulating the gut with prebiotic inulin influence the peripheral nerve system, offering potential new therapeutic strategies and underlying mechanisms.

