

(54) Title of the invention : COMBINATION THERAPY FOR OSTEOPOROSIS USING TRIBUTYRIN AND CALCITRIOL

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(57) Abstract :  
A novel composition for treating osteoporosis is disclosed, comprising Tributyrin and Calcitriol in specific concentration ranges, along with a sterile phosphate-buffered saline solvent, polysorbate 80, glycerin, benzyl alcohol, and pH-adjusting agents. This composition targets HDAC-6 and VDR pathways to enhance bone remodeling, decrease osteoclast activity, and mitigate osteoporosis symptoms. It is formulated for administration during the last 14 days of a 28-day protocol and is effective in increasing bone mineral density and improving serum biomarkers associated with bone health. The composition demonstrates superior efficacy compared to monotherapy approaches. Reference Fig 1

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