

Author: [ADVANCED](#)

Volume Page

Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(598K\)\]](#) [\[References\]](#)**Apoptotic and Necrotic Influence of Dental Resin Polymerization Initiators in Human Gingival Fibroblast Cultures**[Kouhei MASUKI](#)¹⁾, [Yuji NOMURA](#)¹⁾, [Ujjal Kumar BHAWAL](#)²⁾, [Masahiko SAWAJIRI](#)³⁾, [Isao HIRATA](#)¹⁾, [Yukinori NAHARA](#)⁴⁾ and [Masayuki OKAZAKI](#)¹⁾

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Abstract:

The aim of this study was to examine the apoptotic and necrotic influence of four dental resin polymerization initiators—namely benzoyl peroxide (BPO), camphorquinone (CQ), dimethylaminoethyl methacrylate (DMAEMA), and dimethyl-para-toluidine (DMPT)—on human gingival fibroblast (HGF) cells. To this end, the growth inhibition of HGF cells with 1 mM BPO, CQ, and DMAEMA, and 500 μ M DMPT was evaluated using Cell Counting Kit-8. Then, cell cycle analysis by flow cytometry was used to assess propidium iodide-stained cells (distribution of cells in G₀/G₁, S, G₂/M phases). All four dental resin polymerization initiators induced G₀/G₁ cell cycle arrest. As for the patterns of cell death (necrosis and/or apoptosis), they were analyzed using Annexin V-FITC/PI staining with flow cytometry. All four dental resin polymerization initiators most likely induced necrosis.

Key words:[Apoptotic and necrotic influence](#), [Dental resin polymerization initiators](#), [Human gingival fibroblast](#)

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