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[\[PDF \(223K\)\]](#) [\[References\]](#)**Cytotoxicity Evaluation of Two Different Composites with/ without Fibers and One Nanohybrid Composite**[Aykut TUNÇEL](#)¹⁾, [Ali Kemal ÖZDEMİR](#)¹⁾, [Zeynep SÜMER](#)²⁾, [Feridun HÜR MÜZLÜ](#)³⁾
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Abstract:

In this study, cytotoxicity of two different composites with/ without fibers (Adoro/ Vectris and SculpturePlus/ FiberKor) and one nanohybrid composite (Artglass) were investigated and compared. Composites used in the study were prepared as cylindrical discs of 2 mm depth and 8 mm diameter according to ISO 10993 recommendation. Adoro/ Vectris and SculpturePlus/ FiberKor groups were divided into composite, fiber, and composite+fiber groups. Agar diffusion method was employed, and cytotoxicity rankings were determined using lysis index scores. For statistical analysis, Kruskal-Wallis and Mann-Whitney U tests were used. Amongst the composites, Adoro was found to be less cytotoxic than Sculpture Plus and Artglass materials — which were of the same cytotoxicity ranking. Between the fiber and composite materials, the former were found to be more cytotoxic than the latter; in particular, Vectris was found to be more cytotoxic than FiberKor. It was observed that upon combining with the fibers, the cytotoxic effect of the composites increased. This cytotoxicity enhancement was manifested as an additional effect in Adoro/ Vectris group but as a synergistic effect in SculpturePlus/ FiberKor group.

Key words:[Cytotoxicity](#), [Fiber-reinforced systems](#), [Nanohybrid composite](#)

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