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[\[Image PDF \(351K\)\]](#) [\[References\]](#)**Surface Modification of Poly(L-lactide) by Atmospheric Pressure Plasma Treatment and Cell Response**[Fumio TERAOKA](#)¹⁾, [Masafumi NAKAGAWA](#)¹⁾ and [Masashi HARA](#)¹⁾

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Abstract:

This study investigated the influence of atmospheric pressure plasma treatment on the surface properties and cell response of poly(L-lactide) (PLLA) samples. The samples were analyzed by means of X-ray photoelectron spectroscopy (XPS), atomic force microscopy (AFM), micro- and nanosurface roughness, water contact angle, and zeta potential. Furthermore, cell adhesion assay and cell proliferation assay on the samples were carried out using MC3T3-E1 cells. Plasma treatment significantly increased the oxygen content of the samples and decreased the contact angle and zeta potential of the samples, resulting in hydrophilic surfaces. Further, plasma treatment of the samples also enhanced the number and growth of adhering MC3T3-E1 cells. These results therefore indicate that plasma treatment is effective for surface modification and cell responses.

Key words:[Poly\(L-lactide\) \(PLLA\)](#), [Plasma treatment](#), [Cell response](#)[\[Image PDF \(351K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)

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