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[\[PDF \(178K\)\]](#) [\[References\]](#)**Proteomic Analysis of Lipopolysaccharide-treated Submandibular Gland in Rat**[Kohei Sawaki](#)<sup>1)</sup>, [Takashi Shinomiya](#)<sup>1)</sup>, [Migiwa Okubo](#)<sup>1)</sup>, [Eri Tsukagoshi](#)<sup>1)</sup>, [Makoto Ogane](#)<sup>1)</sup>, [Mototsugu Matsuura](#)<sup>1)</sup>, [Masanobu Yoshikawa](#)<sup>2)</sup> and [Mitsuru Kawaguchi](#)<sup>1)</sup>1) *Department of Pharmacology, Tokyo Dental College*2) *Department of Clinical Pharmacology, Tokai University School of Medicine*

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**Abstract:** We investigated changes in the protein profile of submandibular gland (SMG) with inflammation induced by exposure to lipopolysaccharide (LPS) with the aim of identifying potential molecular markers of injured gland. Lipopolysaccharide (2.5 $\mu$ g) was directly administered into rat SMG unilaterally by retrograde ductal injection. At 12hr after treatment, the gland was excised and the proteins identified by two-dimensional difference gel electrophoresis and matrix-assisted laser desorption/ionization-time of flight mass spectrometry. Many proteins in the LPS-treated gland showed a marked change compared to those in the contralateral gland. Of particular note were increases in ubiquitin, a highly-conserved small regulatory protein and in calgranulin B, which has an immunological function in inflammation. Proteins related to apoptosis and stress also showed change in the inflamed gland. The results of this study suggest that the ubiquitin system of protein modification is involved in LPS-induced inflammation in salivary gland, and that a number of specific proteins might be applicable as molecular markers in the monitoring of inflamed or injured gland.

**Key words:** [Proteome](#), [Submandibular gland](#), [Lipopolysaccharide](#), [Inflammation](#), [Ubiquitin](#)[\[PDF \(178K\)\]](#) [\[References\]](#)Download Meta of Article[\[Help\]](#)

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