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Roles of GILZ in protein metabolism of L6 muscle cells exposed to serum from septic rats

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ABSTRACT. Sepsis is a complex inflammatory response to infection, associating with dramatic metabolic disorders. Although the mechanisms of immune response during sepsis have been largely clarified, current studies rarely pay attention to the disordered protein metabolism in sepsis. In this study, L6 rat skeletal muscle cells treated with serum from septic rats were used as an *in vitro* model for sepsis-like condition in skeletal muscle. We found that the expression of glucocorticoid-induced leucine zipper (GILZ) positively correlates with glucocorticoid receptor and negatively correlates with myosin heavy chain expression in L6 muscle cells upon septic serum induction. Moreover, we propose that GILZ may associate with cytokines such as TNF-α, IL-1β as well as IL-10 to cooperatively modulate the glucocorticoid/glucocorticoid receptor-mediated regulation of protein metabolism during sepsis. So the present study provides a new approach and theoretical basis for further studies on the regulation of

protein metabolism of skeletal muscle during sepsis.

Key words: GILZ; Glucocorticoid; Cytokines; Protein metabolism; Sepsis

