

# 学位論文審査結果の要旨

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<p>(学位論文審査結果の要旨)</p> <p>Irisin supports integrin-mediated cell adhesion of lymphocytes</p> <p>Irisin, a myokine released from skeletal muscle, has recently been found to act as a ligand for the integrins <math>\alpha V\beta 5</math>, <math>\alpha V\beta 1</math>, and <math>\alpha 5\beta 1</math> expressed on mesenchymal cells, thereby playing an important role in the metabolic remodeling of the bone, skeletal muscle and adipose tissues. Although the immune-modulatory effects of irisin in chronic inflammation have been documented, its interactions with lymphocytic integrins have yet to be elucidated. Here, we show that irisin supports the cell adhesion of human and mouse lymphocytes. Cell adhesion assays using a panel of inhibitory antibodies to integrins have shown that irisin-mediated lymphocyte adhesion involves multiple integrins including not only <math>\alpha 4\beta 1</math> and <math>\alpha 5\beta 1</math>, but also leukocyte-specific <math>\alpha L\beta 2</math> and <math>\alpha 4\beta 7</math>. Importantly, mouse lymphocytic TK-1 cells that lack the expression of <math>\beta 1</math> integrins have exhibited <math>\alpha L\beta 2</math>- and <math>\alpha 4\beta 7</math>-mediated cell adhesion to irisin. Irisin has also been demonstrated to bind to purified recombinant integrin <math>\alpha L\beta 2</math> and <math>\alpha 4\beta 7</math> proteins. Thus, irisin represents a novel ligand for integrin <math>\alpha L\beta 2</math> and <math>\alpha 4\beta 7</math>, capable of supporting lymphocyte cell adhesion independently of <math>\beta 1</math> integrins. These results suggest that irisin may play an important role in regulating lymphocyte adhesion and migration in the inflamed vasculature.</p> <p>イリシンは、リンパ球のインテグリンを介した細胞接着をサポートすることを明らかにした論文であり、学術上極めて有益であり、学位論文として価値あるものと認められた。</p>			

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