

Involvement of hyaluronic acid metabolism in skin aging and cosmetics

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Hyaluronic acid (HA) is a type of extracellular matrix (ECM) composed of linear glycosaminoglycans, which are present in tissues and body fluids and are actively involved in tissue formation and homeostasis. The mechanism of hyaluronan metabolism is of great importance in understanding the tissue microenvironment in pathological tissues. However, the landscape of the *in vivo* hyaluronan-degradation system has not yet been elucidated. In this study, we investigated the role of HYBID (HYaluronan-Binding protein Involved in hyaluronan Depolymerization) that plays a central role in hyaluronan degradation *in vivo*, and to elucidate the role of the HYBID-HA degradation system in skin and intestinal homeostasis, aging, and biological defense using *Hybid*-deficient mice. The results of this research are significant in that they may provide new insights into skin and intestinal homeostasis, aging, and biological defense, contributing to the search for new anti-aging and anti-inflammatory drugs focusing on the HYBID-HA degradation system.