

Human Bone Marrow Is Comprised of Adipocytes with Specific Lipid Metabolism.

Attané C, Estève D, Chaoui K, Iacovoni JS ... Valet P, Schiltz O, Reina N, Muller C. 

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The bone marrow adipose tissue (BMAT) shares morphological features with peripheral white adipose tissue (WAT). However, in contrast with WAT, during caloric restriction in experimental animal models and in humans suffering from anorexia nervosa, the number and size of bone marrow adipocytes (BM-Ads) increase. The mechanisms through which BMAT preserves lipid content under energy demanding conditions has remained long unexplained. Attané and colleagues have addressed this issue by performing proteomic and lipidomic analysis of primary human BM-Ads. Their study indicates that human BM-Ads have a cholesterol-oriented metabolism and are devoid of basal and inducible lipolytic activity compared to subcutaneous adipocytes. In addition, the authors show that adipocytes generated in vitro by human bone marrow stromal cells, often used as an experimental model of BMAT, do not recapitulate the essential lipid metabolism profile of primary human BM-Ads. This work significantly expands our knowledge on BMAT physiology and provides important information for our approach to the study of this specific adipose compartment.

Disclosures

None declared

Notes:

This evaluation has been transferred from Alessandro Corsi to Mara Riminucci.