

Dear Reviewer 2,

We would like to thank You for giving us this important remarks and comments. We appreciate discussing our research and Your input in making our manuscript better. We trust that this extensively revised version of our manuscript is clear and concise as well as scientifically strengthened.

This is an informative and comprehensive review of bone marrow adipocytes from Piotrowska and Tarnowski. Comments and suggestions are minor as below.

1. Line 91: There is yellow and red MAT. Yellow adipose tissue is not a common name.
[Accordingly to the Reviewer's suggestion we corrected the phrases.](#)
2. Line 97: The role of PPAR γ in BM adipogenesis has been well established but less is known about C/EBP α . Please add the reference.
[Due to reviewer's note, we added the reference.](#)
3. Line 111: The red marrow and yellow marrow likely refer to rMAT and cMAT. Please make the distinction here to avoid confusion further.
[Accordingly to Reviewer's suggestion we changed the fragment to: "transition of red \(haematopoietic\) bone marrow to yellow \(non-haematopoietic\) bone marrow."](#)
4. Line 130: cMAT and rMAT are more commonly used.
[We thank the Reviewer for this remark, we use two abbreviations in brackets as we already arranged the abbreviations as a remark of other Reviewer.](#)
5. Line 137-141: this paragraph is confusing. Please modify.
We would like to thank the Reviewer for that remark, we changed the paragraph:
["Furthermore, their response to physiological stress differs: rBMAT/rMAT adipocytes reduce in size and number after cold exposition \[35\], fasting \[36\] or prolonged exercise \[37\]. Additionally, the size of rBMAT/rMAT cells increases with ageing, a high fat diet, caloric restriction and anorexia, irradiation, or treatments with hypoglycaemic thiazolidinediones \(insulin-mimetic drugs used for type 2 diabetes treatment\) and hyperglycaemia-causing glucocorticoids \[38,39\]."](#)
6. Line 142: cMAT does change in response to external stimuli it's just less responsive (ex. Scheller et al Nat Comm 2005).
[According to Reviewer comment we changed the sentence and gave additional reference: "Conversely, cBMAT/cMAT change in size in response to external stimuli or pathophysiological changes is less evident\[26,35\]."](#)
7. Line 166-168: Please add reference.
[The reference \[46\] was added](#)
8. Line 235: A decreased oestrogen level, FGF-21 and glucocorticoids also contribute to MAT expansion. This sentence is unclear.
[Corrected and rephrased. We thank the reviewer for that note, we corrected the sentence: "A decreased oestrogen level found in postmenopausal women or in experimental ovariectomy in animal models, FGF-21 and increased level of glucocorticoids also contribute to BMAT expansion \[62-65\]."](#)
9. Line 252-259: The order of the sentences is not fluent, please consider rewording.
[This part was rephrased accordingly to the Reviewer's suggestion.](#)

Best regards,

KP and MT