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Flat C, 23/F., Lucky Plaza,  
315-321 Lockhart Road,  
Wan Chai, Hong Kong, China

## ESPS Peer-review Report

**Name of Journal:** World Journal of Stem Cells

**ESPS Manuscript NO:** 6624

**Title:** The Distinction of White, Beige and Brown Adipocytes Derived from Mesenchymal Stem Cells

**Reviewer code:** 01851506

**Science editor:** Ma, Ya-Juan

**Date sent for review:** 2013-10-25 19:51

**Date reviewed:** 2013-10-29 10:53

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C (Good)	<input type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

## COMMENTS TO AUTHORS

The review article by Bae et al is concise and fairly comprehensive to a wide range of readers. Though the authors tried to summarize briefly and comprehensively the current knowledge on the adipocyte differentiation into white, brown, and beige adipocytes, they sometimes failed to describe precisely what transcription factors/activators play a role and how these factors work together in beige adipocyte differentiation (mechanistic pathway leading to the beige differentiation). Minor points (1) There are some typographical errors (or spelling) in the text. (2) Authors should complete the specific marker (in Table1: it is better to point all the factors known to be specific markers for each type of adipocytes). (3) It is better to add "activators" section in Table 1 to be more comprehensive. (4) Figure 2 is somewhat poor in terms of easy comprehension. It is better to draw an alternative figure to facilitate readers to understand the adipocyte program. To address this, the authors are encouraged to refer to a recent review by Hams and Seale (Nat. Med. 10. 1252-1263, 2013)



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**Name of Journal:** World Journal of Stem Cells

**ESPS Manuscript NO:** 6624

**Title:** The Distinction of White, Beige and Brown Adipocytes Derived from Mesenchymal Stem Cells

**Reviewer code:** 00609434

**Science editor:** Ma, Ya-Juan

**Date sent for review:** 2013-10-25 19:51

**Date reviewed:** 2013-11-07 20:19

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input checked="" type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input checked="" type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C (Good)	<input type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

## COMMENTS TO AUTHORS

The manuscript from Park et al. is an interesting review describing the physiological, anatomical and metabolic differences between white, brown and, the newly discovered, beige/brite adipocytes. The review analyses the current literature in the field mainly summarizing the very recent findings on a new type of cell, the beige/brite adipocyte, that has been found in white adipose tissue of human adults, and from which it can transdifferentiate, with expression patterns and metabolic characteristics typical of the brown adipose tissue. The occurrence of these thermogenic fat-consuming cells, as well as the stimulation of their transdifferentiation in the white adipose tissue, may provide new tools for the regulation of energy homeostasis and of the amounts of fat depots in the organism. The manuscript is of interest in its field because it reviews the literature of a very recent discover which implications for the development of new therapies for obesity are an hot topic in the modern society. The manuscript is well written, even if I suggest a further control of english language and some minor points to be addressed regarding the lack of some references in the text. 1)Page 7, line 4: "Some previous evidences supported the idea that ..... BAT development or activity." The sentence lacks the relative references. 2)Page 12, line 2: "Until now, many factors that can lead to the browning of WAT have been reported", the authors should also refer to, and comment, a recent paper referring to the overexpression of BMP-4 to promote WAT browning (Qian SW et al. BMP4-mediated brown fat-like changes in white adipose tissue alter glucose and energy homeostasis. Proc Natl Acad Sci U S A. 2013 Feb 26;110(9):E798-807. doi: 10.1073/pnas.1215236110. Epub 2013 Feb 6. PMID:23388637) that hasn't been considered in the review. 3)Page 14, line 2:"Previous studies showed that activated BAT is inversely correlated with BMI, adipose mass and insulin resistance." The sentence lacks the relative references.