



**ESPS Peer-review Report**

**Name of Journal:** World Journal of Immunology

**ESPS Manuscript NO:** 9746

**Title:** Functional roles of Lysosomal Acid Lipase in Myeloid Derived Suppressive Cell Development and Homeostasis

**Reviewer code:** 02446204

**Science editor:** Ling-Ling Wen

**Date sent for review:** 2014-02-27 16:24

**Date reviewed:** 2014-02-28 13:31

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"/> Rejection
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Minor revision
		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

**COMMENTS TO AUTHORS**

This review is very well written, providing a comprehensive explanation about the involvement of LAL in the differentiation of MDSCs along with in-depth explanations on its molecular mechanisms. I believe that this review will make a large contribution to an understanding of the impact of lipid metabolism on the regulation of hematopoiesis. Nevertheless, this manuscript requires some minor revisions before publication in World Journal of Immunology.

1) The discussion in the section “MDSCs development and differentiation” (page 9, line 1 - page 10, line 8) is very interesting. The contents of this section are accurate and very much worth reading. Nevertheless, I do hope that authors would make a further discussion regarding the relationship between cell-autonomous and non-cell-autonomous defects in the hematopoiesis in *lal*<sup>-/-</sup> mice. For example, how cell-autonomous defects would possibly provoke environmental skews in hematopoiesis.

2) There is an error in the pagination of the reference #67. “J Appl Physiol 2004, 97: In press” should be corrected as “J Appl Physiol 2004, 97: 1543-1548”

3) There are some unclear descriptions regarding the citation of the references. In page 8, line 12, there are no descriptions of the citation. To make it easier for readers to access the original papers, “ .... under the control of the 7.2 kb *c-fms* promoter/intron2 regulatory sequence” should be rewritten as “ .... under the control of the 7.2 kb *c-fms* promoter/intron2 regulatory sequence [31], [33] ”.

In page 8, lines 18 - 22, it would be better to rewrite the sentences “Expression of hLAL in myeloid lineage cells of this *c-fms*-rtTA/(tetO)7-CMV-hLAL;*lal*<sup>-/-</sup> triple mouse model significantly reduces systemic MDSCs accumulation, ameliorated pathogenic phenotypes and reversed aberrant gene expression, supporting a concept that cholesteryl ester and



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triglyceride metabolism is essential for the normal biological function of myeloid cells [31].” as “Expression of hLAL in myeloid lineage cells of this c-fms-rtTA/(tetO)7-CMV-hLAL;lal-/- triple mouse model significantly reduces systemic MDSCs accumulation [33], ameliorated pathogenic phenotypes and reversed aberrant gene expression [31], supporting a concept that cholesteryl ester and triglyceride metabolism is essential for the normal biological function of myeloid cells.” 4) In title, it would be better to rewrite “Myeloid Derived Suppressive Cell” as “Myeloid-Derived Suppressive Cell”. 5) In page 19, line 1, it would be better to rewrite the words “cell autonomous” as “cell-autonomous”. 6) In page 20, line 20, it would be better to rewrite the words “a macrophage specific elastase” as “a macrophage-specific elastase”. 7) In page 20, line 21, it would be better to rewrite the words “AT II cells” as “alveolar type II (AT II) cells”. 8) In page 20, line 22, it would be better to rewrite the words “migrating and residential cells” as “macrophages and lung epithelial cells”. 9) In page 21, line 6, it would be better to rewrite the words “activated-MMP12” as “activated MMP12”. 10) In page 21, line 15, it would be better to rewrite the words “MMP12 overexpression” as “MMP12-overexpressive”. 11) In page 21, lines 18-19, it would be better to rewrite the words “cell autonomous” as “cell-autonomous”. 12) In page 22, line 9, it would be better to rewrite the words “second to” as “secondary to”. 13) In page 23, line 9, it would be better to rewrite the words “inflammation induced” as “inflammation-induced”. 14) In page 23, line 12, the words “block MDSCs homeostasis and function” should be written as “normalize MDSCs homeostasis and functions”. 15) In page 23, lines 12-13, it would be better to rewrite the words “More detail characterization” as “More detailed characterization”.



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**Name of Journal:** World Journal of Immunology

**ESPS Manuscript NO:** 9746

**Title:** Functional roles of Lysosomal Acid Lipase in Myeloid Derived Suppressive Cell Development and Homeostasis

**Reviewer code:** 00506409

**Science editor:** Ling-Ling Wen

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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 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

In this manuscript a detailed review is presented about lysosomal acid lipase (LAL) and its function with respect to the development and activities of myeloid derived suppressive cells (MDSC). Arguments are presented that the formation of cholesterol and free fatty acids under influence of LAL influences in particular myeloid cells. Most of the work in this area is done in LAL-deficient mice, which manifest an increase in MDSCs, that infiltrate in lymphoid organs and hence affect lymphocyte development and function. Downstream of LAL function are inflammatory processes and tumorigenesis facilitated, which is described in detail for the lung and lymphoid system. This is a relevant topic that appears to be adequately reviewed. The text is clear and the complex issue is well presented. Although immune function and lymphoid organ is only one of the targets, this reviews fits with the scope of an immunology journal. The only comment regards the presentation of the complex pathways in which LAL and downstream processes affect MDSCs, which in turn affect multiple processes and metabolic pathways. It would be advised to summarize the processes and pathways and their components affected in the form of a table, and even better in the form of figures. This would highly facilitate the messages in the text. It is also advised to conduct a final check of the english, since there are a few minor typographical errors.



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## ESPS Peer-review Report

**Name of Journal:** World Journal of Immunology

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**Title:** Functional roles of Lysosomal Acid Lipase in Myeloid Derived Suppressive Cell Development and Homeostasis

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**Science editor:** Ling-Ling Wen

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**Date reviewed:** 2014-03-10 17:15

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 checked="" 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
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## COMMENTS TO AUTHORS

The review entitled "Functional roles of Lysosomal Acid Lipase in Myeloid Derived Suppressive Cell Development and Homeostasis" by Yan and Du, have written nicely about the lysosomal acid lipase. Authors gathered several informations. Basically, well written. However, to make easier for readers, I would like to suggest including cartoons or figures.