

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Diabetes*

**Manuscript NO:** 75512

**Title:** Biochemical composition of the glomerular extracellular matrix in patients with diabetic kidney disease

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05857226

**Position:** Peer Reviewer

**Academic degree:** PharmD

**Professional title:** Chief Pharmacist, Lecturer

**Reviewer's Country/Territory:** Croatia

**Author's Country/Territory:** Suriname

**Manuscript submission date:** 2022-02-01

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-02-21 07:29

**Reviewer performed review:** 2022-03-03 10:23

**Review time:** 10 Days and 2 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="checkbox"/> ] Anonymous [ <input type="checkbox"/> ] Onymous
	Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No

## SPECIFIC COMMENTS TO AUTHORS

Dear authors, Thank you very much for the opportunity to read and comment on your manuscript. This is well written review addressing biochemical composition of the glomerular extracellular matrix in patients with diabetic kidney disease. I have no comments regarding the composition of the manuscript. However, I have some comments that would increase the quality of your work. I have not found that you have mentioned  $\alpha 3\beta 1$ ,  $\alpha 2\beta 1$ ,  $\alpha 5\beta 1$  and  $\alpha v\beta 3$  integrins which are described in scientific literature as mediators for collagen IV. Their expression differs in high and normal glucose concentrations. Can you explain? I recommend mentioning its role if necessary. I have not found that you have mentioned matrix metalloproteinases (MMP) and tissue inhibitor of metalloproteinase (TIMP) which are involved in basement membrane turnover. Can you explain? I recommend mentioning its role if necessary. I have not found that you have mentioned TGF- $\beta$ , which increased expression is linked with increased expression of matrix components in diabetic nephropathy. Can you explain? I recommend mentioning its role if necessary. I have not found that you have mentioned transcription factor NF- $\kappa$ B, which expression is increased in diabetic patients in proximal tubular epithelial cells. Can you explain? I recommend mentioning its role if necessary. I have not found that you have mentioned integrin-linked kinase (ILK), PINCH and CH-ILKBP (calponin homology domain-containing ILK binding protein), growth factors such as PDGF, TGF- $\beta$  and VEGF, and advanced glycation end-products (AGE). Can you explain? I recommend mentioning its role if necessary. Glomerular extracellular matrix (GEM) and glomerular basement membrane (GBM) are puzzling researches for few decades now and we can find many in vitro researches and review



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articles describing this topic. Therefore, in order to add more value to scientific literature your review article should be more comprehensive and summarize majority of data for this complex topic that we know for now. I recommend to do additional research on this topic, particularly more recent review articles, and add more data which are lacking to further increase the quality of your work. I recommend adjusting the manuscript style according to the Baishideng Publishing Group Inc. requirements (e.g., key words, brackets, titles, subtitles, references, etc.). You can check previous review articles published in the World Journal of Diabetes. Table 1, line Other components does not fit in the Table composition. If other components are added with unknown presence in GBM and Mesangial matrix this should be formatted to suite Table composition. Figure 3 is unclear. Is it showing variations in some components of the glomerular extracellular matrix by the stage of DKD (earlier vs. later stage)? If so this should be explained and I suggest adding abscissa (x-axis) describing change in components.

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**Reviewer's code:** 06109373

**Position:** Peer Reviewer

**Academic degree:** MBBS, PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** United Arab Emirates

**Author's Country/Territory:** Suriname

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input checked="" type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="radio"/> ] Anonymous [ <input type="radio"/> ] Onymous Conflicts-of-Interest: [ <input type="radio"/> ] Yes [ <input checked="" type="radio"/> ] No
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## SPECIFIC COMMENTS TO AUTHORS

Criteria for Review: 1 Title. Does the title reflect the main subject/hypothesis of the manuscript? Yes 2 Abstract. Does the abstract summarize and reflect the work described in the manuscript? Yes 3 Key words. Do the key words reflect the focus of the manuscript? Yes 4 Background. Does the manuscript adequately describe the background, present status and significance of the study? Yes 5 Methods. Does the manuscript describe methods (e.g., experiments, data analysis, surveys, and clinical trials, etc.) in adequate detail? Yes 6 Results. Are the research objectives achieved by the experiments used in this study? What are the contributions that the study has made for research progress in this field? Objectives achieved. A very good summary of the biochemical composition of the glomerular extracellular matrix in patients with diabetic kidney disease 7 Discussion. Does the manuscript interpret the findings adequately and appropriately, highlighting the key points concisely, clearly and logically? Yes. But can improve on the MS by elaborating on biochemical methods used. It is also useful if authors discussed the pathways regulating ECM synthesis and abnormalities. Are the findings and their applicability/relevance to the literature stated in a clear and definite manner? Yes Is the discussion accurate and does it discuss the paper's scientific significance and/or relevance to clinical practice sufficiently? Yes. 8 Illustrations and tables. Are the figures, diagrams and tables sufficient, good quality and appropriately illustrative of the paper contents? Do figures require labeling with arrows, asterisks etc., better legends? Yes. 9 Biostatistics. Does the manuscript meet the requirements of biostatistics? Not applicable 10 Units. Does the manuscript meet the requirements of use of SI units? Not applicable 11 References. Does the manuscript cite appropriately

the latest, important and authoritative references in the introduction and discussion sections? Yes. But missing some important new references. Examples: 1. Paunas FTI, Finne K, Leh S, Osman TA, Marti HP, Berven F, Vikse BE. Characterization of glomerular extracellular matrix in IgA nephropathy by proteomic analysis of laser-captured microdissected glomeruli. BMC Nephrol. 2019 Nov 14;20(1):410. doi: 10.1186/s12882-019-1598-1. PMID: 31726998; PMCID: PMC6854890. 2. Feng S, Gao Y, Yin D, Lv L, Wen Y, Li Z, Wang B, Wu M, Liu B. Identification of Lumican and Fibromodulin as Hub Genes Associated with Accumulation of Extracellular Matrix in Diabetic Nephropathy. Kidney Blood Press Res. 2021;46(3):275-285. doi: 10.1159/000514013. Epub 2021 Apr 22. PMID: 33887734. Does the author self-cite, omit, incorrectly cite and/or over-cite references? No. 12 Quality of manuscript organization and presentation. Is the manuscript well, concisely and coherently organized and presented? Yes. Is the style, language and grammar accurate and appropriate? Yes. 13 Research methods and reporting. Authors should have prepared their manuscripts according to manuscript type and the appropriate categories, as follows: (1) CARE Checklist (2013) - Case report; (2) CONSORT 2010 Statement - Clinical Trials study, Prospective study, Randomized Controlled trial, Randomized Clinical trial; (3) PRISMA 2009 Checklist - Evidence-Based Medicine, Systematic review, Meta-Analysis; (4) STROBE Statement - Case Control study, Observational study, Retrospective Cohort study; and (5) The ARRIVE Guidelines - Basic study. Did the author prepare the manuscript according to the appropriate research methods and reporting? 14 Ethics statements. For all manuscripts involving human studies and/or animal experiments, author(s) must submit the related formal ethics documents that were reviewed and approved by their local ethical review committee. Did the manuscript meet the requirements of ethics? Not applicable peer review 1. This Review described the current knowledge on the biochemical composition of the glomerular extracellular matrix in healthy people and patients with



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diabetes. It provides a very good summary of the abnormalities observed in diabetic patients with kidney disease. It used a classical approach for summarizing the literature and therefore, did not run a critique or the strength and weakness of findings by other researchers. 2. The manuscript cites appropriately the important and authoritative references in the introduction and discussion sections, but missing some important new references. Examples: Paunas FTI, Finne K, Leh S, Osman TA, Marti HP, Berven F, Vikse BE. Characterization of glomerular extracellular matrix in IgA nephropathy by proteomic analysis of laser-captured microdissected glomeruli. *BMC Nephrol.* 2019 Nov 14;20(1):410. doi: 10.1186/s12882-019-1598-1. PMID: 31726998; PMCID: PMC6854890. Feng S, Gao Y, Yin D, Lv L, Wen Y, Li Z, Wang B, Wu M, Liu B. Identification of Lumican and Fibromodulin as Hub Genes Associated with Accumulation of Extracellular Matrix in Diabetic Nephropathy. *Kidney Blood Press Res.* 2021;46(3):275-285. doi: 10.1159/000514013. Epub 2021 Apr 22. PMID: 33887734 3. The MS can be improved by elaborating on the biochemical methods used in discovery of the ECM composition. 4. It will also add value if authors discussed the pathways regulating ECM synthesis and abnormalities.