**Pre-submission enquiry**

Distinguished Prof. **Remy Burcelin, remy.burcelin@inserm.fr**

Distinguished Prof. **Prof. Vincent Blasco-Baque, vincent.blasco@inserm.fr**

I hope this mail finds you well.

I am writing to inquire whether my manuscript entitled “Linking Gut Microbiota, Oral Microbiota, and Serum Metabolome in Insomnia Disorder: Insights into Potential Mechanisms” is suitable for an Article Collection on Gut Microbiota Shapes Brain Behavior for Health: a deep source of potential therapeutic targets in your esteemed journal Gut Microbes. I believe that the discoveries we have made would be a good fit for your readers, and I hope you will consider evaluating the manuscript to see if it falls within your journal's scope. I have included a detailed abstract of the contents of my paper after my message here.

Despite recent reports of gut microbiota alterations in insomnia disorder (ID), investigations into the gut microbiota, oral microbiota, serum metabolome, and their relationship in ID remain limited. ﻿﻿Here, we characterize the gut microbiota, oral microbiota and serum metabolome in a cohort of 76 ID patients (IDs) and 59 healthy controls (HCs), evaluate the potential of the microbiota as a non-invasive biomarker for ID, and enhance the understanding of relationships between gut microbiota, oral microbiota and serum metabolome in ID using 16S rDNA sequencing and untargeted metabolomics analysis. Dysbiosis was found in the gut microbiota and oral microbiota of IDs. Microbial biomarkers from these microbiota could differentiate IDs from HCs and predict ﻿clinical sleep parameters. Concordance and divergence were ﻿observed between the gut microbiota and oral microbiota, indicating overlap in the abundance of species at different body sites. Eleven significant altered serum metabolites were found between two groups including adenosine, phenol and phenol sulphate. ﻿Furthermore, multi-omics analysis revealed that genus\_*Lachnospira* positively correlated with adenosine and genus*\_Coprococcus* negatively correlated with phenol and phenol sulphate.Altered gut microbiota, oral microbiota and serum metabolites in IDs are highly associated with clinical outcomes, ﻿indicating potential mechanistic links between altered bacteria, serum metabolome and ID. This study provides fresh understanding of the interplay among the gut microbiota, oral microbiota, and serum metabolome in ID, a promising therapeutic target for this disease.

Specifically, our work showed interplay among the gut microbiota, oral microbiota, and serum metabolome in ID using 16S rDNA Sequencing﻿﻿ and metabolomics technologies .These results fit nicely with Gut Microbes’ aim of publishing works on Gut Microbiota Shapes Brain Behavior for Health: a deep source of potential therapeutic targets. If you have any further questions about the manuscript, please let me know.

Many thanks for your time and consideration. I am eager to receive your thoughts and would be happy to send along the paper itself or any other information that might be helpful.

Looking forward to hearing from you soon.

With kind regards,

Yours sincerely,

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