

### Reply to comment on: Alpha-Klotho protein in systemic lupus erythematosus

Sirs,

We appreciate the comments by Jiang and Yang in relation to our recent work “Alpha-Klotho protein in systemic lupus erythematosus” (1).

In our study, controls and SLE patients were matched by sex and age. In the univariable analysis no differences were found in alpha-Klotho serum levels between both populations. Despite this, and to ensure that confounding factors did not affect our results, additional multivariable analysis was performed adjusting for body mass index, abdominal circumference, smoking, diabetes, hypertension, and triglycerides and HDL-cholesterol serum levels (see Figure 1 in the original manuscript). After this multivariable analysis, the absence of differences between patients and controls was maintained. We agree with Jiang and Yang regarding the fact that alpha-Klotho serum levels have been related, in previous works, with the presence of diabetes mellitus and obesity. Indeed, this was the case for obesity, but not diabetes, in our SLE population, where circulating alpha-Klotho was significantly associated with the former but not the lat-

ter. However, we believe that the multivariable analysis of our work, in which obesity and diabetes were included as covariates, was sufficient to rule out any influence that these two variables might have had on our results.

In any case, to answer to the questions raised by Jiang and Yang we have additionally performed a sensitivity analysis in which obese and diabetic patients and controls have been excluded. Our previous results were confirmed in this analysis. Consequently, alpha-Klotho serum levels did not differ in the univariable analysis (controls  $2.0 \pm 1.4$  vs. SLE patients  $1.8 \pm 1.2$  ng/ml,  $p=0.20$ ). Furthermore, this lack of difference was maintained after multivariable analysis adjusting for smoking, hypertension, and serum levels of triglycerides and HDL-cholesterol. (beta coefficient  $-0.3$  [95% confidence interval  $-0.7-0.06$ ] ng/ml,  $p=0.10$ ).

In summary, this new analysis suggested by Jiang and Yang confirms our previous conclusions regarding the fact that SLE patients and matched controls do not differ in circulating alpha-Klotho. We thank Jiang and Yang for their comments and interest regarding our work. We believe that future studies will provide further information on this topic and yield similar conclusions regarding the expression of alpha-Klotho in patients with SLE.

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### Reference

1. MARTÍN-GONZÁLEZ C, GÓMEZ-BERNAL F, QUEVEDO-ABELEDÓ JC *et al.*: Alpha-Klotho protein in systemic lupus erythematosus. *Clin Exp Rheumatol* 2023; 41: 41-7.  
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