**2.Fecal Metabolomics and Potential Biomarkers for Systemic Lupus Erythematosus**

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**文章简介**

系统性红斑狼疮（Systemic lupus erythematosus，SLE）是一种以慢性炎症为特征的自身免疫性疾病，影响多个组织器官，如皮肤、关节和肾脏等，其特点是体内存在多种自身抗体，发病率高，患者生活质量低。裘宇容教授团队揭示了 SLE 患者粪便代谢谱及代谢途径与健康人群相比存在显著差异，该成果发表在《Frontiers in Immunology》。该研究基于超高效液相色谱与质谱联用技术对 SLE 患者粪便样本进行代谢物分析，通过不同的生信分析，为我们揭示了粪便代谢谱与系统性红斑狼疮之间的关系，并且发现粪便代谢物对 SLE 有诊断价值。这为我们治疗和预测慢性自身免疫性疾病提供了新的希望和思路。

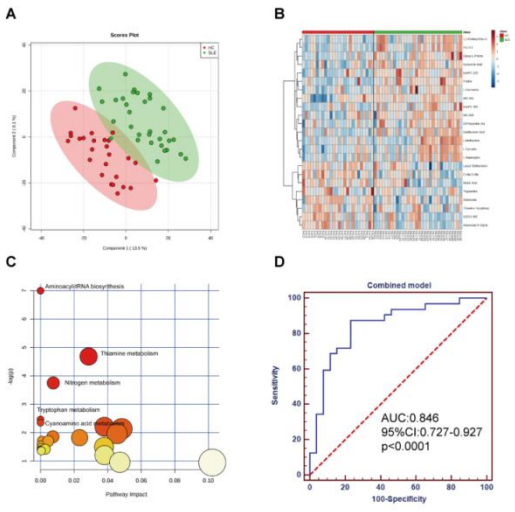


**Fig.** Partial least squares discriminant analysis (PLS-DA) of fecal metabolomics data from SLE patients and healthy controls (A). Fecal metabolite profiles in SLE patients and healthy controls were shown as heatmaps (B). Pathway analysis of altered metabolites isolated from SLE patients compared with healthy controls. 23 metabolic pathways were enriched in fecal samples. Aminoacyl-tRNA biosynthesis, thiamine metabolism, nitrogen metabolism, tryptophan metabolism, and cyanoamino acid metabolism significantly disturbed compared with healthy controls ($p<0.1$) (C). ROC analysis of the combined model established with PG 27: 2 and proline achieved an area under the ROC curve of 0.846 (D).