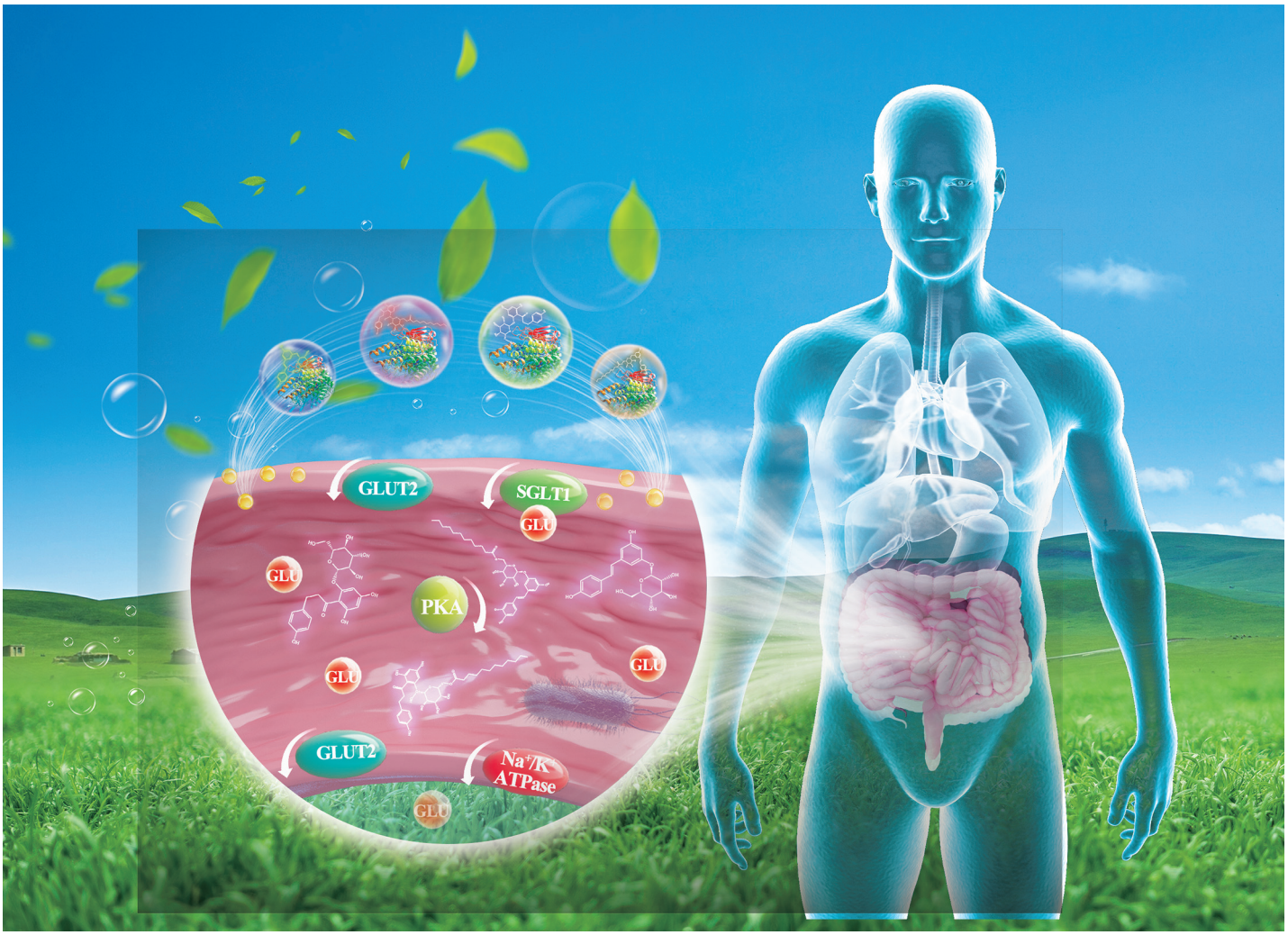

Showcasing research from Professor Zhengang Zhao's laboratory, School of Food Science and Engineering, South China University of Technology, Guangzhou, China.

Inhibition of α-glucosidase activity and intestinal glucose transport to assess the *in vivo* anti-hyperglycemic potential of dodecyl-acylated phlorizin and polydatin derivatives

Dr. Zhengang Zhao's research team is dedicated to enhancing the bioavailability and health benefits of natural active compounds. This study assessed the anti-hyperglycemic properties of phlorizin, polydatin, and their dodecyl-acylated derivatives. The dodecyl-acylated derivatives of phlorizin and polydatin exhibit a higher affinity for α-glucosidase and induce conformational changes *via* non-covalent interactions, reducing its catalytic activity. Additionally, phlorizin, polydatin, and their dodecyl-acylated derivatives significantly inhibit glucose transport across the intestinal monolayer. In contrast, the dodecyl-acylated derivatives demonstrated enhanced inhibitory activity.

As featured in:

See Zhengang Zhao *et al.*, *Food Funct.*, 2024, **15**, 4785.

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