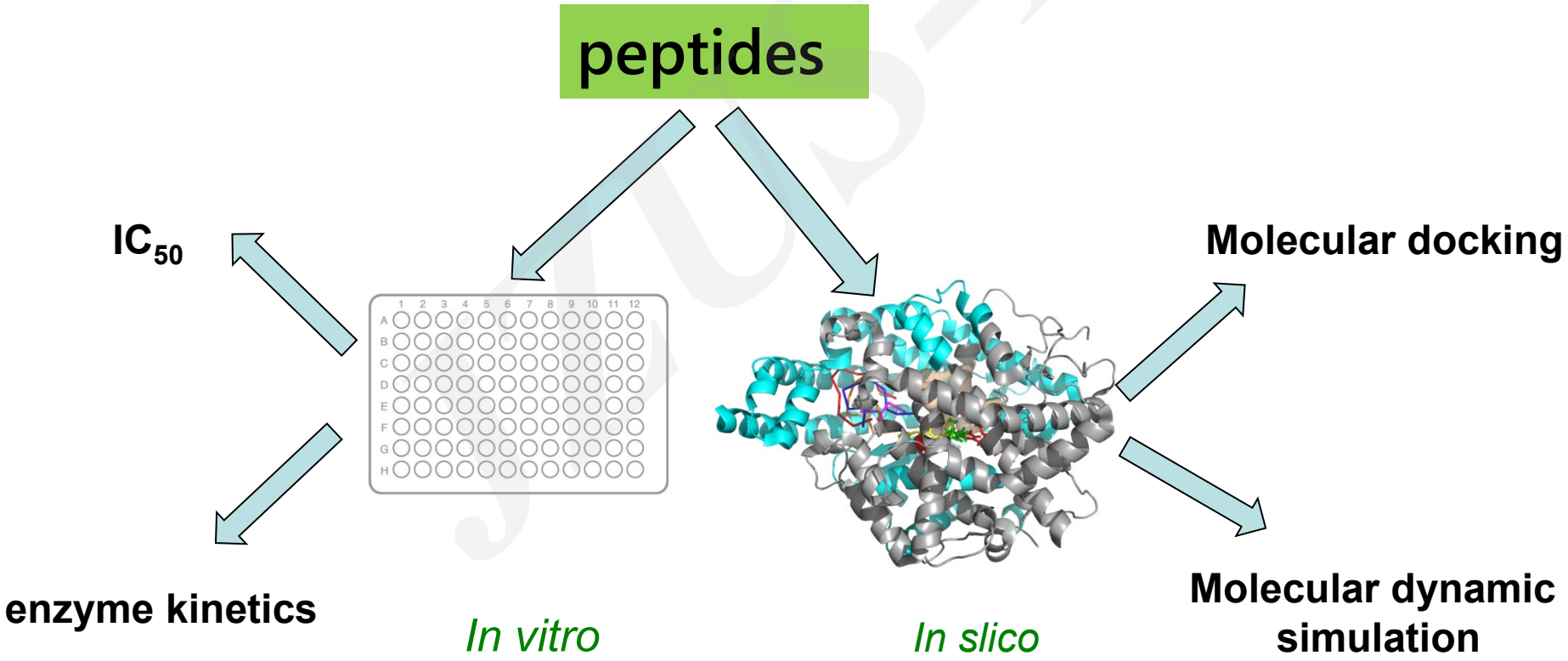
Cite this as: Yating LU, Yu WANG, Danyi HUANG, Zhuang BIAN, Peng LU, Dongmei FAN, Xiaochang WANG. Inhibitory mechanism of angiotensin-converting enzyme inhibitory peptides from black tea[J]. Journal of Zhejiang University Science B, 2021, 22(7): 575-589.
http://doi.org/10.1631/jzus.B2000520

Inhibitory mechanism of angiotensin-converting enzyme inhibitory peptides from black tea

Key words: Tea peptides; ACE inhibitory peptides; Kinetic study; Molecular docking; Molecular dynamic simulation

Research Summary

This work discovered the antihypertensive mechanism of tea peptides and analysed the affinities between the peptides and the angiotensin 1-converting enzyme (ACE) using two methods.



Innovation points

- **New natural tea products**

  Peptides we used was purified directly from black tea without any additional treatments.

- **New react mode**

  Three peptides inhibited ACE activity in an uncompetitive manner were first reported.

- **Novel functional ingredients**

  Four bioactive peptides can be considered as novel functional ingredients.

JZUS-B

Innovation points

The peptides showing its inhibitory *in vitro* were revealed and characterized by:

Reason 1 | the stability between peptides-ACE complex

Reason2 | the fluctuations of individual residues of ACE after docking with peptides

Reason 3 | the unfolding degree of ACE protein after docking with peptides

Reason 4 | the binding sites of peptides when docking with ACE

JZUS-B