

## **Revelation of Adhesive Proteins Affecting Cellular Contractility through A Reference-free Traction Force Microscopy**

*Yingjun Yang<sup>a,e</sup>, Kuankuan Han<sup>a</sup>, Siyuan Huang<sup>a,d</sup>, Kai Wang<sup>a</sup>, Yuchen Wang<sup>a</sup>, Shukai  
Ding<sup>a</sup>, Le Zhang<sup>a</sup>, Miao Zhang<sup>a</sup>, Bingshe Xu<sup>a,e,g</sup>, Shufang Ma<sup>a</sup>, Yongtao Wang<sup>f\*</sup>,  
Shengli Wu<sup>c\*</sup>, Xinlong Wang<sup>b\*</sup>*

<sup>a</sup> Materials Institute of Atomic and Molecular Science, School of Physics & Information Science, Shaanxi University of Science and Technology, Xi'an, P.R. China;

<sup>b</sup> Department of Biomedical Engineering, Northwestern University, Evanston, IL, USA

<sup>c</sup> Hepatobiliary Surgery, The First Affiliated Hospital of Xi'an Jiaotong University, Xi'an, Shaanxi, China

<sup>d</sup> Department of Basic Medical Sciences, Sichuan Vocational College of Health and Rehabilitation, Zigong, China

<sup>e</sup> Shanxi-Zheda Institute of Advanced Materials and Chemical Engineering, Taiyuan, P.R. China.

<sup>f</sup> Shanghai Engineering Research Center of Organ Repair, School of Medicine, Shanghai University, Shanghai, China

§ Laboratory of Interface Science and Engineering in Advanced Materials, Taiyuan  
University of Technology, Taiyuan, China;

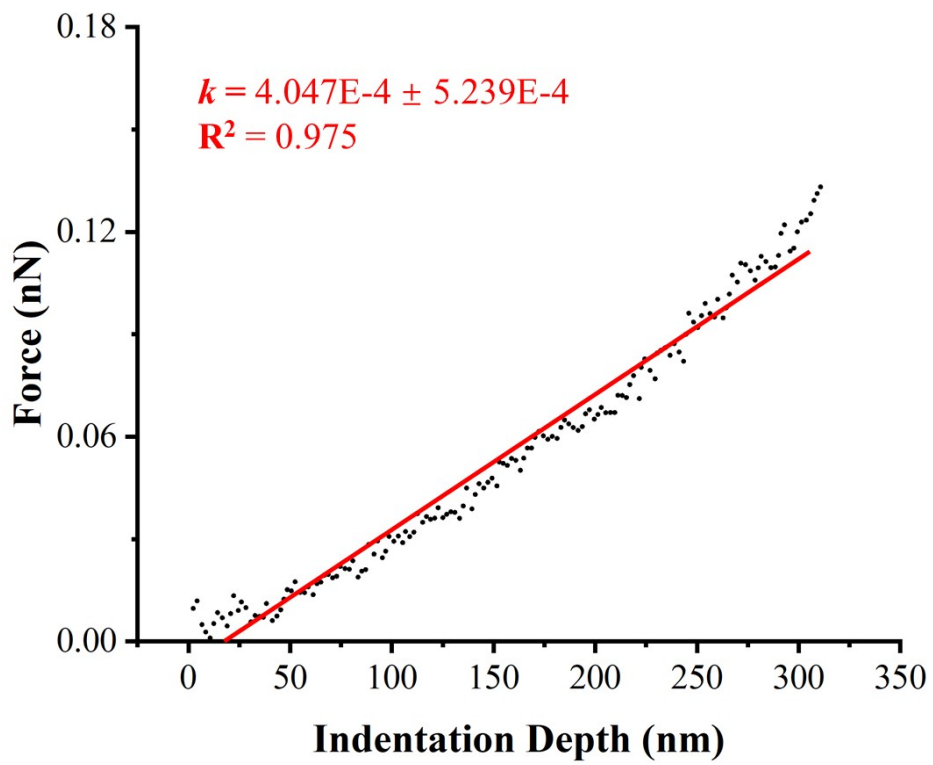
### **Corresponding Author**

\* Corresponding Authors:

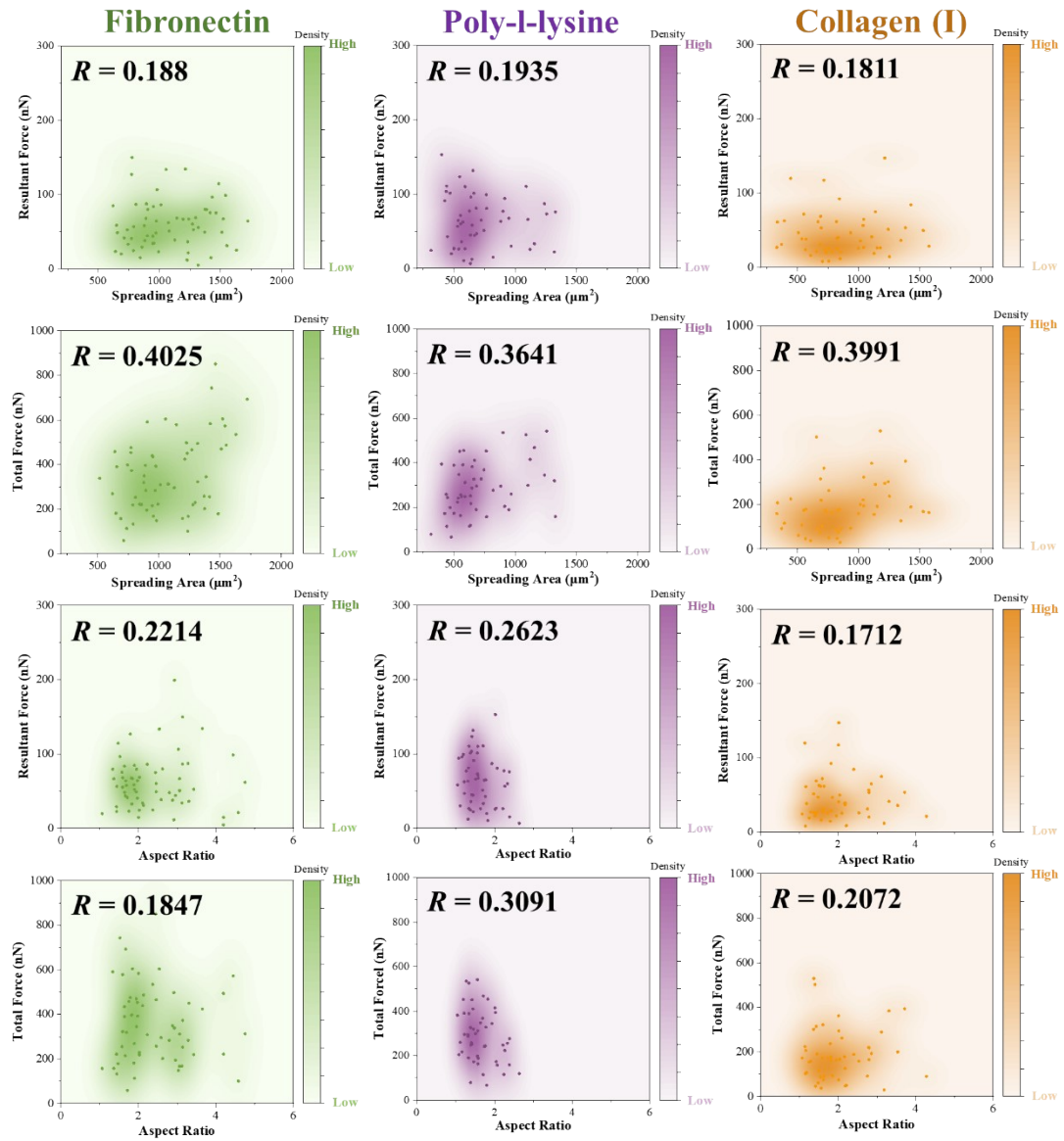
Dr. Yongtao Wang: [yongtao\\_wang@shu.edu.cn](mailto:yongtao_wang@shu.edu.cn)

Dr. Shengli Wu: [victorywu2000@163.com](mailto:victorywu2000@163.com)

Dr. Xinlong Wang: [xinlong.wang@northwestern.edu](mailto:xinlong.wang@northwestern.edu)



**Fig.S1.** Relationship between force and indentation depth from nanoindentation experiment.



**Fig.S2.** Relationship between cellular contractility and cell morphology ( $n > 50$ ).

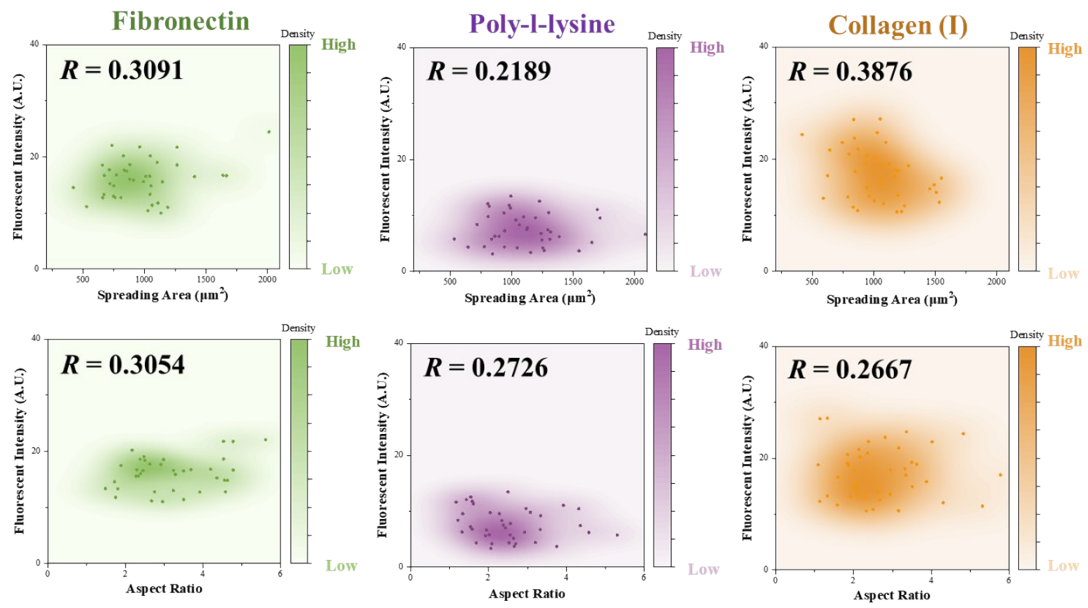


Fig.S3. Relationship between YAP localization and cell morphology (n > 50).