

上海市生物化学与分子生物学学会

2019 年青年学术论坛

优秀青年报告 推荐表

姓 名	林昶东	性 别	男
E-mail	linchangdong@sibcb.ac.cn	手 机	13817364240
单位/院校	中科院上海生物化学 与细胞生物学研究所	职 称	副研究员
报告题目	Fever Promotes T Lymphocyte Trafficking via a Thermal Sensory Heat Shock Protein 90-α4 Integrin Pathway		
报告摘要	<p>Fever is an evolutionary conserved response that confers survival benefits during infection. However, the underlying mechanism remains obscure. Here we report that fever promoted T lymphocyte trafficking through heat shock protein 90 (Hsp90)-induced α4 integrin activation and signaling in T cells. By inducing selective binding of Hsp90 to α4 integrins, but not β2 integrins, fever increased α4 integrin-mediated T cell adhesion and transmigration. Mechanistically, Hsp90 bound to α4 tail and activated α4 integrins via inside-out signaling. Moreover, the N- and C-terminus of one Hsp90 molecule simultaneously bound to two α4 tails, leading to dimerization and clustering of α4 integrins on cell membrane and subsequent activation of FAK-RhoA pathway. Abolishment of Hsp90-α4 interaction inhibited fever-induced T cell trafficking to draining lymph nodes and impaired the clearance of bacterial infection. Our findings identify Hsp90-α4 integrin axis as a thermal sensory pathway that promotes T lymphocyte trafficking and enhances immune surveillance during infection.</p>		
论文发表情况 (近三年)	<p>1. ChangDong Lin, YouHua Zhang, Kun Zhang, YaJuan Zheng, Ling Lu, HaiShuang Chang, Hui Yang, YanRong Yang, YaoYing Wan, ShiHui Wang, MengYa Yuan, ZhanJun Yan, RongGuang Zhang, YongNing He, GaoXiang Ge, Dianqing Wu, and JianFeng Chen. Fever Promotes T Lymphocyte Trafficking via a Thermal Sensory Pathway Involving Heat Shock Protein 90 and alpha4 Integrins. <i>Immunity</i> 2019; 50:137-151 e136. (IF: 21.522) (commented or highlighted by <i>Nature</i>, <i>Science</i>, <i>Cell</i>, <i>JAMA</i> and <i>Nature Reviews Immunology</i>)</p> <p>2. ChangDong Lin, and JianFeng Chen. Regulation of immune cell trafficking by febrile temperatures. <i>International Journal of Hyperthermia</i> 2019; In press. (IF: 3.589)</p> <p>3. 林昶东, 陈剑峰. 浅谈发热促进机体免疫的机制. <i>生命的化学</i> 2019; 39(1): 53-58. (封面文章)</p> <p>4. DaiSong Wang, Xin Hu, ChunYe Liu, YingYing Jia, YiQing Bai, CheGuo Cai, JingQiang Wang, LanYue Bai, RuiKai Yang, ChangDong Lin, YiRong Liu, Shan Li, Feng Qiao, Ling Yao, Li Chen, GaoXiang Ge, Hai Jiang, DianFan Li, Lin Li, JianFeng Chen, Zhi-Ming Shao, and Yi Ariel Zeng. Protein C Receptor is a therapeutic stem cell target in a distinct group of breast cancers. <i>Cell research</i> 2019; In press. (IF: 17.848)</p> <p>5. Ling Lu*, ChangDong Lin*, Shu Wang, YouHua Zhang, ShiHui Wang, JunLei Wang, and JianFeng Chen. Kindlin-3 is essential for resting integrin α4β1-mediated firm cell adhesion under shear flow conditions. <i>Journal of biological chemistry</i> 2016; 291: 10363-10371. (*Co-first author; IF: 4.106)</p> <p>6. YouHua Zhang*, YouDong Pan*, ChangDong Lin*, YaJuan Zheng, Hao Sun, HaiLong Zhang, JunLei Wang, MengYa Yuan, Tao Duan, QiaoLing Du, and JianFeng Chen. Bile acids evoke placental inflammation by activating Gpbar1/NF-kappaB pathway in intrahepatic cholestasis of pregnancy. <i>Journal of molecular cell biology</i> 2016; 8(6), 530-541. (*Co-first author; IF: 4.671)</p> <p>7. 林昶东, 张有华, 杨妍荣, 陈剑峰. 发热对淋巴细胞黏附与迁移的调控及机制. <i>中国细胞生物学学报</i> 2016; 38(2): 127-134.</p>		

请在 2019 年 8 月 29 日之前提交推荐表至学会办公室 ssmb@sibs.ac.cn。

邮件主题注明: 2019 年青年论坛