Ding Jian, Shanghai Institute of Materia Medica, Chinese Academy of Sciences

Professor Ding has dedicated to establishing the world-class drug discovery infrastructure and capability in China. As the leading scientist, his team has built a competitive oncology drug pipeline. Among them, 9 compounds have been licensed to pharmaceutical companies for further development. Facing the worldwide therapeutic challenges of drug resistance and limited response rate, Professor Ding's team has initiated a campaign to guide anticancer drug discovery by molecular biomarkers. These efforts led to the discovery of a series of predicative and response biomarkers, which empower the stratification of responsive patients, the indication of resistance acquisition and the assessment of alterative therapeutic solutions, and gained international recognition in the field. Professor Ding also formulated and led the "Personalized Medicines——Molecular Signature-Based Drug Discovery and Development", a strategic priority research program of CAS, which, together with other efforts from the community, enable China to be on pace with the world precision medicine initiative.

- 系统阐明了数个药靶相互作用的结构基础与作用模式，为肿瘤治疗学和肿瘤生物学研究增添了新的内容
- 国家自然科学二等奖(2009，第一):拓扑异构酶Ⅰ新型抑制剂沙尔威辛的抗肿瘤分子机制
- 上海自然科学一等奖(2007，第一):抗肿瘤新药分子药理作用机制研究

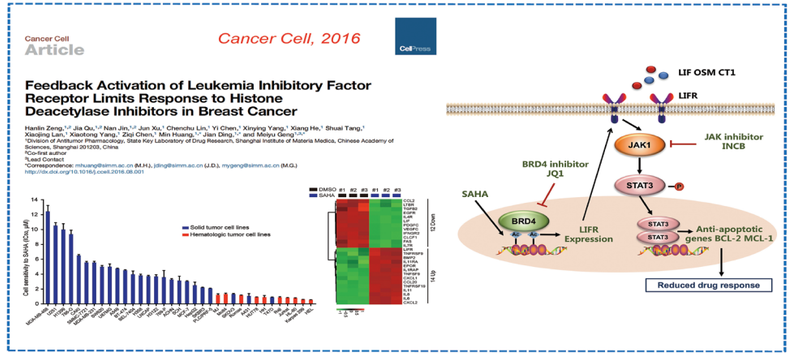
阐明了沙尔威辛等十余个抗肿瘤药物分子机制

Professor Ding's team has elucidated the molecular mechanism of over 10 anticancer drugs. Among which, the project "Molecular mechanistic study of a novel type of topoisomerase II inhibitor Salvicine" received the second grade of National Natural Science Award of China in 2009

- 发现了具有重要活性的化合物62个，揭示了土槿皮酸类和二萜原酸酯类抗肿瘤等活性的构效关系
- 国家自然科学二等奖(2013，第二):若干重要中草药的化学与生物活性成分的研究
- 上海自然科学一等奖(2010，第三) :若干药用植物中结构新颖、多样化天然活性物质的研究

完成了对若干重要中草药的化学与生物活性成分研究

Professor Ding's team has made contributions to the development of Traditional Chinese Medicine by identifying the bioactive components of several important Chinese herbs and received the second grade of National Natural Science Award of China in 2013



发现 LIFR 反馈激活是 HDAC 抑制剂治疗实体瘤失败的耐药机制，提出与 JAK 抑制剂联用是克服治疗失败的关键，为临床即刻转化应用提供了依据

Professor Ding's team has discovered that feedback activation of leukemia inhibitory factor receptor pathway accounts for the limited response of histone deacetylase (HDAC) inhibitors in breast cancer and provided therapeutic solutions via combination with Janus kinase inhibitors. These findings provide mechanistic basis for limited clinical response of HDACs inhibitors and may lead to the immediate translation in clinic

丁健
Ding Jian

丁健

推荐单位：中国科学院上海药物研究所

主要科技贡献：

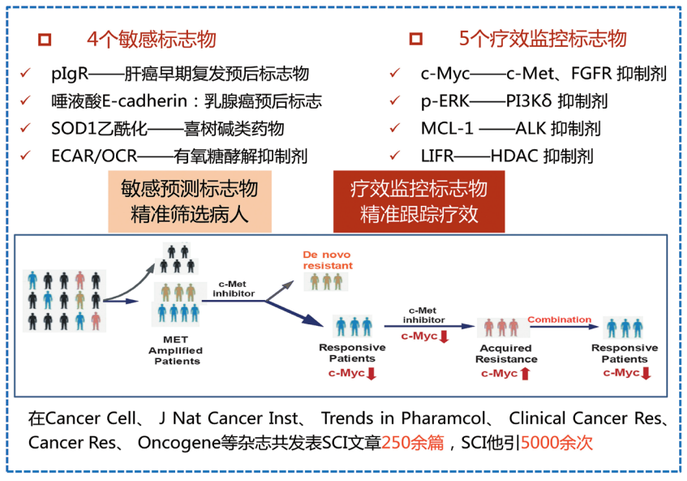
丁健研究员领导建成了技术先进、国际规范的创新药物综合性研发体系。作为主要发明者，研发的十余个分子靶向抗肿瘤新药处于临床和临床前不同阶段，九个已实现转让，经济与社会效益显著，为我国抗肿瘤原创药物研制及创新能力体系建设做出了重要贡献。围绕抗肿瘤药物临床有效率低、易产生耐药等世界难题，提出并发展了"敏感标志物与疗效监控标志物同步的个性化药物研发策略"，发现了十余个配套的疗效监控标志物，为避免临床的无效治疗、监控耐药产生、制定联合用药方案提供了科学依据，得到国际认可。提出并领衔中科院"个性化药物"A 类先导专项，为我国抗肿瘤药物精准治疗的国际同步化战略实施，抢占国际新药研究制高点，做出了基础性贡献。

抗肿瘤新药研发管线

先导化合物	候选药物	临床 I/II
LS-007 (CDK9)	CYH33 (PI3Kα)	K001 (肿瘤免疫)
HH-019 (JAK)	GV-185 (FGFR123)	希明替康 (Topo I)
Fs-114 (HSP90)	120067 (EGFR 3 rd generation)	AL-3810 (FGFR/VEGFR)
JX-06 (PDHK)	DW-10139 (KDR)	SAF-189 (ALK)
2216 (Ezh2)	HH1398 (ERK1/2)	SOMCL-9112 (PARP)
HH-1655 (IDH)	HH1039 (CDK4/6)	CF367-C (HDAC)
Y31 (mTOR)	JG006 (ECM)	SCC244 (c-Met)
	GV-010 (PD-L1)	WM2 (PARP)
	SOMCL-15-290 (FGFR/KDR)	

研制了一批具有国际竞争力的抗肿瘤新药

Professor Ding's team has built a competitive oncology drug pipeline with 8 compounds currently undergoing clinical trial



在Cancer Cell、 J Nat Cancer Inst、 Trends in Pharamcol、 Clinical Cancer Res、 Cancer Res、 Oncogene等杂志共发表SCI文章250余篇，SCI他引5000余次

发现了一批敏感标志物和疗效监控标志物，提出 2 个实时监控的研究策略

Professor Ding's team has discovered a series of predicative and response biomarkers for molecularly targeted anticancer drugs. These efforts promote the conceptual advancement of a co-development strategy that accelerates anticancer drug discovery by providing precise molecular signatures