

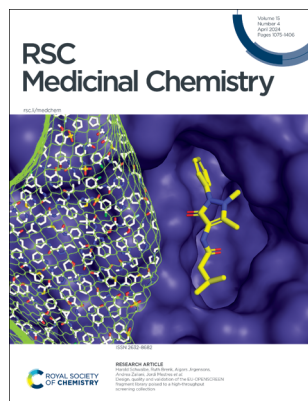
RSC Medicinal Chemistry

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Cover

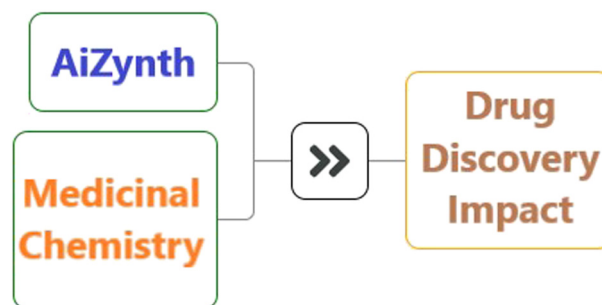
See Harald Schwalbe, Ruth Brenk, Aigars Jirgensons, Andrea Zaliani, Jordi Mestres *et al.*, pp. 1176–1188. Front cover image concept by Jordi Mestres, image created by Xavier Jalencas, artwork designed by Enric Cano and reproduced by permission of Jordi Mestres from *RSC Med. Chem.*, 2024, 15, 1176.

OPINION

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AiZynth impact on medicinal chemistry practice at AstraZeneca

Jason D. Shields,* Rachel Howells, Gillian Lamont, Yin Leilei, Andrew Madin, Christopher E. Reimann, Hadi Rezaei, Tristan Reuillon, Bryony Smith, Clare Thomson, Yuting Zheng and Robert E. Ziegler

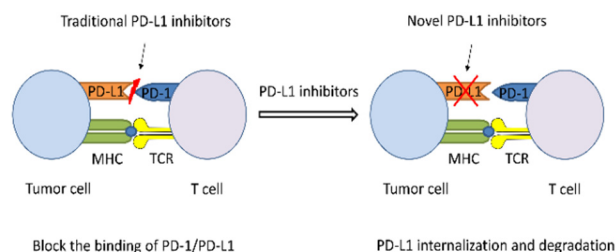


REVIEWS

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Beyond inhibition against the PD-1/PD-L1 pathway: development of PD-L1 inhibitors targeting internalization and degradation of PD-L1

Jiazheng Guo, Fengyi Yu, Kuojun Zhang, Sheng Jiang,* Xiangyu Zhang* and Tianyu Wang*



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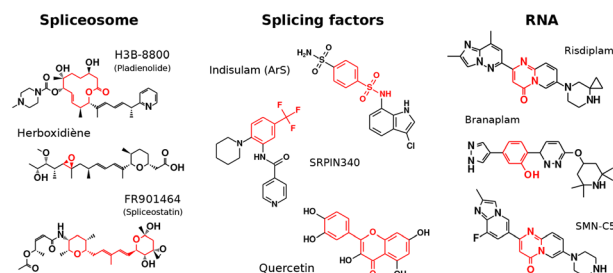


REVIEWS

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Small molecules modulating RNA splicing: a review of targets and future perspectives

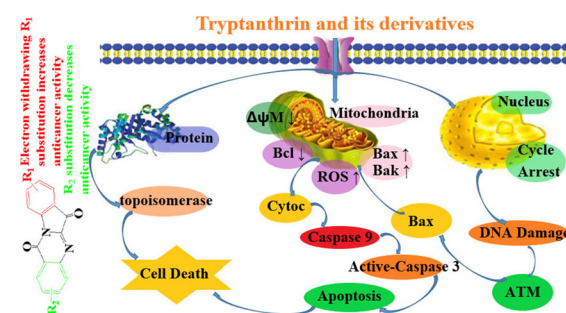
Léa Bouton, Agathe Ecoutin, Florian Malard* and Sébastien Campagne*



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Recent advances of tryptanthrin and its derivatives as potential anticancer agents

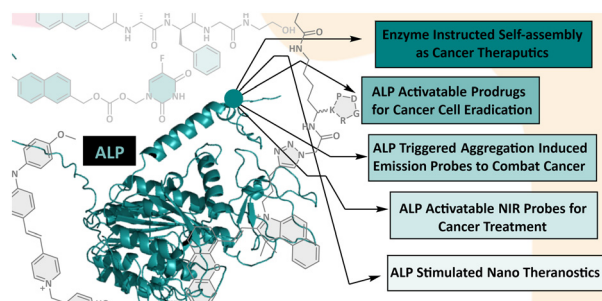
Xiaofeng Zhou



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Emerging potential approaches in alkaline phosphatase (ALP) activatable cancer theranostics

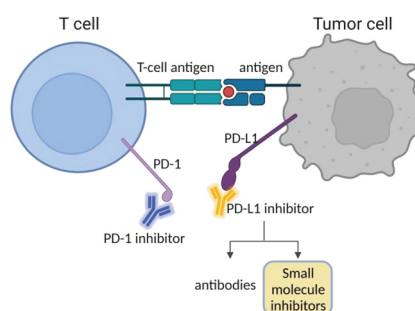
Kartikay Tyagi and V. Venkatesh*



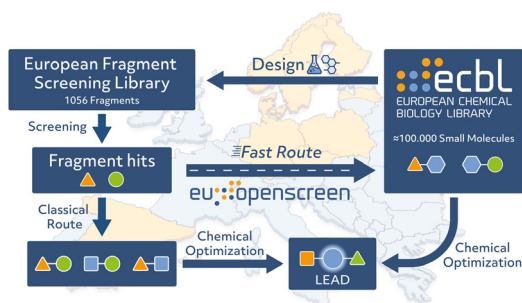
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Progress in small-molecule inhibitors targeting PD-L1

Jindan Xu, Yuanfang Kong, Pengbo Zhu, Mingyan Du, Xuan Liang, Yan Tong,* Xiaofei Li* and Chunhong Dong*



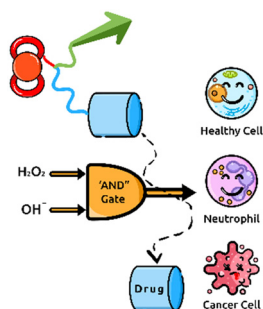
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Design, quality and validation of the EU-OPENSREEN fragment library poised to a high-throughput screening collection

Xavier Jalencas, Hannes Berg, Ludvik Olai Espeland, Sridhar Sreeramulu, Franziska Kinnen, Christian Richter, Charis Georgiou, Vladyslav Yadrykhinsky, Edgar Specker, Kristaps Jaudzems, Tanja Miletić, Robert Harmel, Phil Gribbon, Harald Schwalbe,* Ruth Brenk,* Aigars Jirgensons,* Andrea Zaliani* and Jordi Mestres*

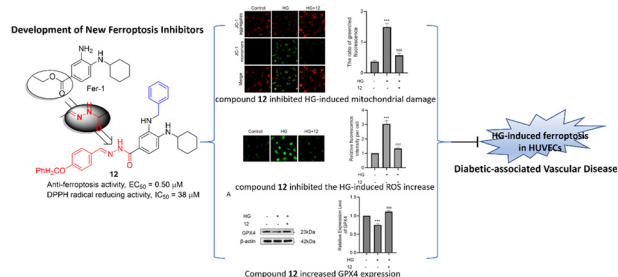
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A concept of dual-responsive prodrugs based on oligomerization-controlled reactivity of ester groups: an improvement of cancer cells versus neutrophils selectivity of camptothecin

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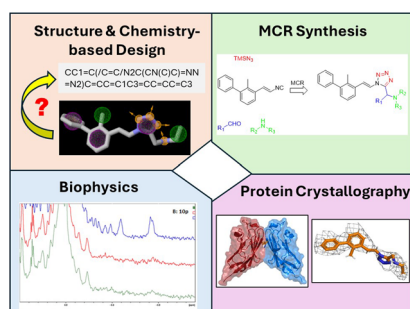
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Design, synthesis, and evaluation of novel ferrostatin derivatives for the prevention of HG-induced VEC ferroptosis

Xin-Xin Wang, Run-Jie Wang, Hua-Long Ji, Xiao-Yu Liu, Nai-Yu Zhang, Kai-Ming Wang, Kai Chen,* Ping-Ping Liu,* Ning Meng* and Cheng-Shi Jiang*

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1,5-Disubstituted tetrazoles as PD-1/PD-L1 antagonists

Robin van der Straat, Rosalie Draijer, Ewa Surmiak, Roberto Butera, Lennart Land, Katarzyna Magiera-Mularz, Bogdan Musielak, Jacek Plewka, Tad A. Holak and Alexander Dömling*

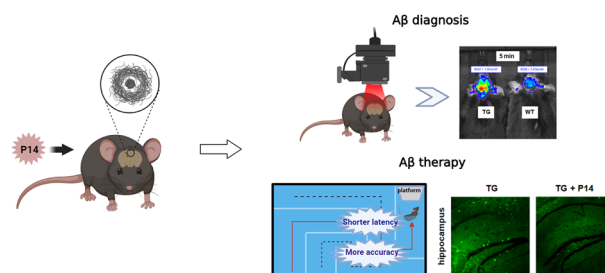


RESEARCH ARTICLES

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A novel BODIPY-based theranostic agent for *in vivo* fluorescence imaging of cerebral A β and ameliorating A β -associated disorders in Alzheimer's disease transgenic mice

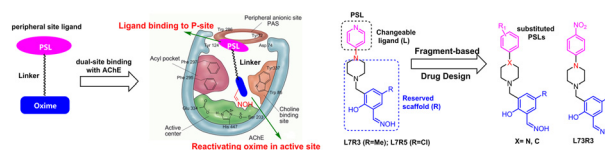
Jingjing Zhang, Wenming Ren, Xiaohui Liu, Jingjing Chen, Yuteng Zeng, Huaijiang Xiang, Youhong Hu* and Haiyan Zhang*



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Screening of efficient salicylaldoxime reactivators for DFP and paraoxon-inhibited acetylcholinesterase

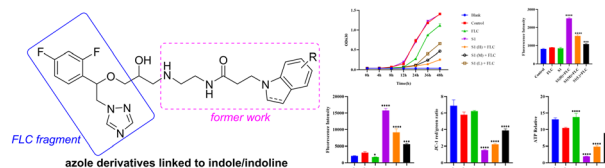
Zhao Wei,* Dongxu Zhang, Xueying Liu, Huifang Nie, Qin Ouyang, Xinlei Zhang* and Zhibing Zheng*



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New azole derivatives linked to indole/indoline moieties combined with FLC against drug-resistant *Candida albicans*

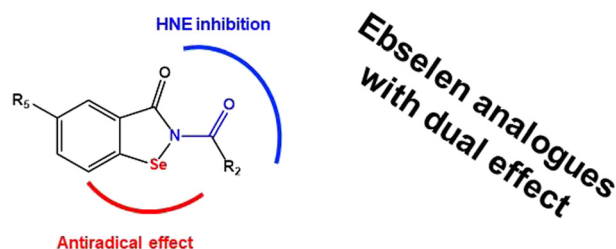
Yunhong Shen, Min Pan, Hui Gao, Yi Zhang, Ruirui Wang, Jun Li* and Zewei Mao*



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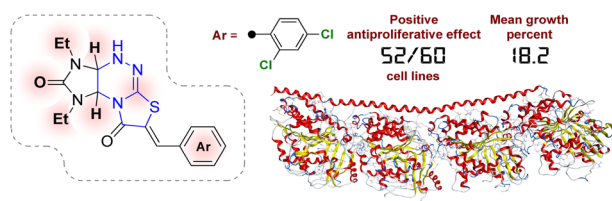
Ebselen analogues with dual human neutrophil elastase (HNE) inhibitory and antiradical activity

Letizia Crocetti,* Francesca Catarzi, Maria Paola Giovannoni, Claudia Vergelli, Gianluca Bartolucci, Marco Pallecchi, Paola Paoli, Patrizia Rossi, Martina Lippi, Igor A. Schepetkin, Mark T. Quinn and Gabriella Guerrini



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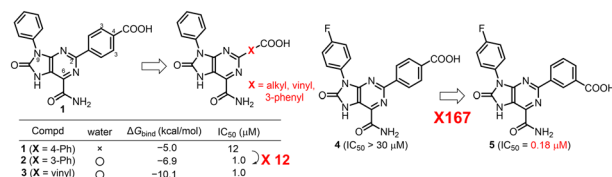
Novel tubulin polymerization inhibitors



Recognition of arylmethylidene derivatives of imidazothiazolotriazinones as novel tubulin polymerization inhibitors

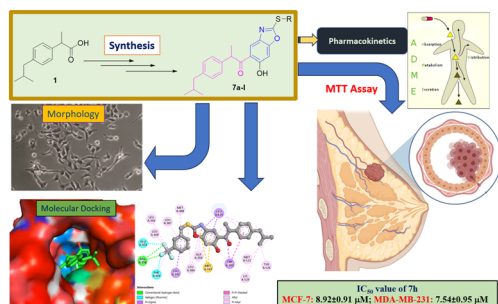
Alexei N. Izmet'sev, Elena V. Svirshchevskaya, Sergey B. Akopov, Angelina N. Kravchenko and Galina A. Gazieva*

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Enhanced inhibitory activity of compounds containing purine scaffolds compared to protein kinase CK2 α considering crystalline water

Keiji Nishiwaki,* Shiori Nakatani, Shinya Nakamura, Kenji Yoshioka, Eri Nakagawa, Masato Tsuyuguchi, Takayoshi Kinoshita and Isao Nakanishi*

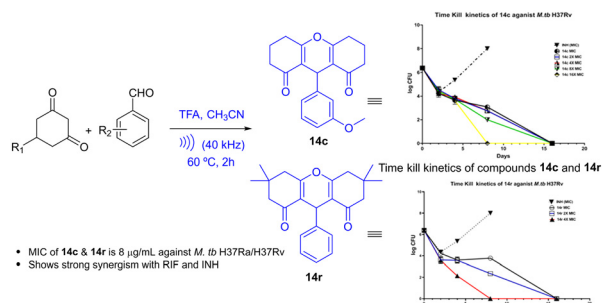
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Design, synthesis, and cytotoxicity of ibuprofen-appended benzoxazole analogues against human breast adenocarcinoma

Vishnu Thumma, Veerabhadraiah Mallikanti, Raghavender Matta, Ravinder Dharavath and Pochampally Jalapathi*

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Trifluoroacetic acid-mediated synthesis of xanthene constructs and their extensive anti-tuberculosis evaluation

Bisma Teli, Mohamad Mosa Mubarak, Zahoor Ahmad* and Bilal A. Bhat*



Discovery of novel positive allosteric modulators targeting GluN1/2A NMDARs as anti-stroke therapeutic agents

Screening in silico & in vitro

NMDAR

Aegeline

Vertical view

Allosteric activation

tMCAO

Vehicle

Aegeline

GluN2A ~ pCREB ~ Cell Survival			
p-CREB	+	+	+
CREB	+	+	+
Tubulin	+	+	+
Glu	+	+	+
NVP	+	+	+
Aegeline	+	+	+

Identification of novel phenylalanine derivatives bearing a hydroxamic acid moiety as potent quorum sensing inhibitors

Design, synthesis, *in vitro* and *in silico* evaluation of indole-based tetrazole derivatives as putative anti-breast cancer agents

The diagram illustrates the workflow of the study. It begins with the chemical synthesis of a triazole derivative from indole-3-carbaldehyde and a substituted benzene. This is followed by molecular docking, ADME studies, MD simulations, and DFT studies. The workflow then branches into an MTT assay and an ER-α binding assay.

Nitrogen-containing andrographolide derivatives with multidrug resistance reversal effects in cancer cells

The diagram illustrates the chemical structures and the mechanism of MDR reversal. On the left, the chemical structure of Andrographolide is shown, which is an inactive diterpene. It features a complex polycyclic core with a hydroxyl group and a lactone ring. An arrow points to the acetylated derivative, where the hydroxyl group is replaced by an acetoxy (AcO) group. This derivative is also labeled as inactive. To the right, a diagram shows the MDR reversal mechanism. The MDR reverser (acetylated Andrographolide) is shown interacting with the P-gp (P-glycoprotein) pump, which is responsible for the efflux of anticancer drugs. The MDR reverser is shown binding to the P-gp, preventing it from pumping out the anticancer drugs. This results in the accumulation of anticancer drugs inside the cell, which is indicated by a red arrow pointing into the cell. The diagram also shows the chemical structure of the anticancer drug, which is a phenylthio compound. The MDR reverser is shown binding to the P-gp, preventing it from pumping out the anticancer drugs. This results in the accumulation of anticancer drugs inside the cell, which is indicated by a red arrow pointing into the cell. The diagram also shows the chemical structure of the anticancer drug, which is a phenylthio compound.

Andrographolide

Inactive

MDR reversal

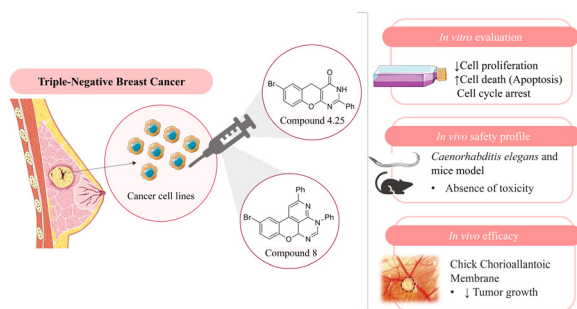
Anticancer drugs

P-gp

- Strong P-gp inhibitor
- Selective antiproliferative activity
- Able to re-sensitize MDR cells

RESEARCH ARTICLES

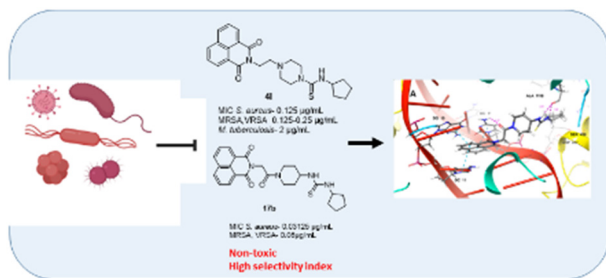
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In vitro and *in vivo* evaluation of novel chromeno[2,3-*d*]pyrimidinones as therapeutic agents for triple negative breast cancer

Luísa Carvalho, Fábio Pedroso de Lima, Mónica Cerqueira, Ana Silva, Olívia Pontes, Sofia Oliveira-Pinto, Sara Guerreiro, Marta D. Costa, Sara Granja, Patrícia Maciel, Adhemar Longatto-Filho, Fátima Baltazar, Fernanda Proença* and Marta Costa*

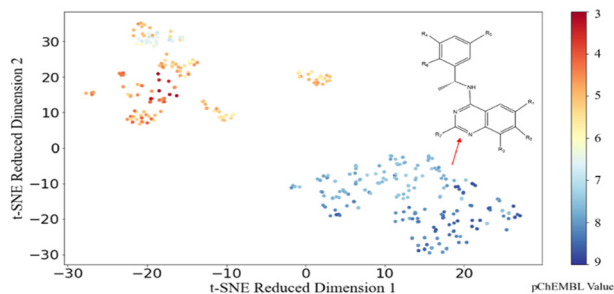
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Synthesis and biological evaluation of new naphthalimide-thiourea derivatives as potent antimicrobial agents active against multidrug-resistant *Staphylococcus aureus* and *Mycobacterium tuberculosis*

Sidharth Chopra* and Srinivas Nanduri* *et al.*

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Discovery of novel SOS1 inhibitors using machine learning

Lihui Duo, Yi Chen, Qiupei Liu, Zhangyi Ma, Amin Farjudian, Wan Yong Ho, Sze Shin Low, Jianfeng Ren,* Jonathan D. Hirst,* Hua Xie* and Bencan Tang*

