

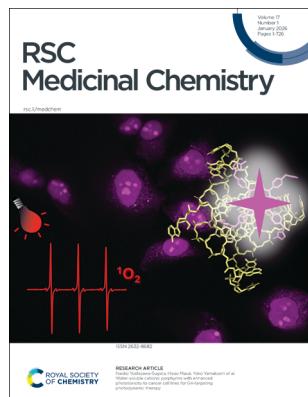
# RSC Medicinal Chemistry

rsc.li/medchem

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2632-8682 CODEN RMCSX 17(1) 1-726 (2026)



### Cover

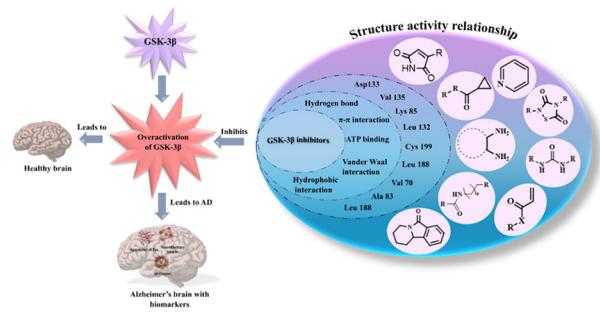
See Naoko Yoshizawa-Sugata,  
Hisao Masai,  
Yoko Yamakoshi et al.,  
pp. 225-235.  
Image reproduced by  
permission of Yoko Yamakoshi  
from *RSC Med. Chem.*,  
2026, 17, 225.

## REVIEWS

15

### Structure-activity relationship of GSK-3 $\beta$ inhibitors: insight into drug design for Alzheimer's disease

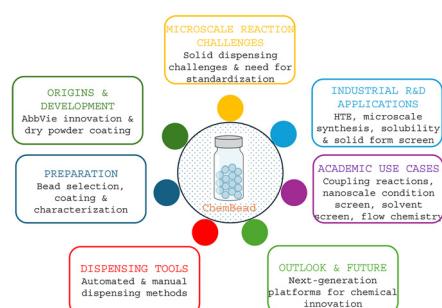
G. Rajamani, Saba Naqvi and Abha Sharma\*



52

### Stick to the beads: supercharging medicinal chemistry and methodology development with ChemBeads

Noah P. Tu\* and Ying Wang





# Royal Society of Chemistry approved training courses

Explore your options.  
Develop your skills.  
Discover learning  
that suits you.

**Courses in the classroom,  
the lab, or online**

Find something for every  
stage of your professional  
development. Search our  
database by:

- subject area
- location
- event type
- skill level

Members get at least 10% off

Visit [rsc.li/cpd-training](http://rsc.li/cpd-training)

**SAVE  
10%**

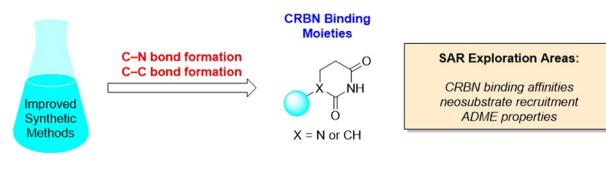


## REVIEWS

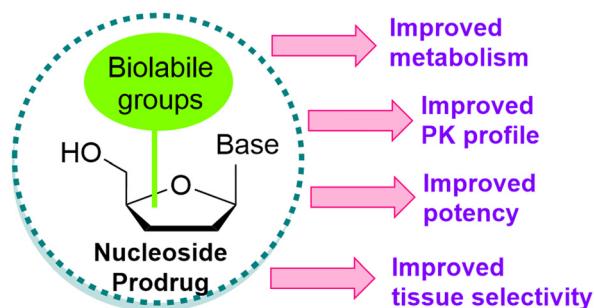
65

**Recent advances in the antimicrobial potential of boron cluster compounds**William J. Price Cunliffe, Peter J. Rutledge\*  
and Louis M. Rendina\*

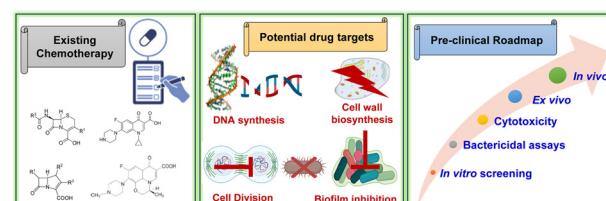
80

**Recent advances in glutarimide chemistry for cereblon-mediated targeted protein degradation: developments in synthesis and diversification**Xiaochu Ba, Mahzad Dehghany, Deborah S. Mortensen  
and Natalie Holmberg-Douglas\*

105

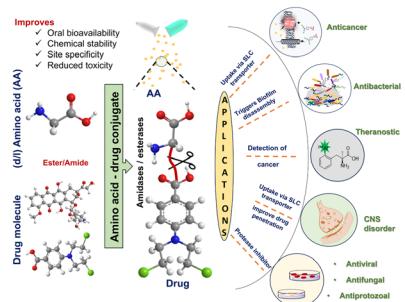
**Prodrug strategies in developing antiviral nucleoside analogs**R. Rama Suresh, Tuniyazi Abuduani, Mahesh Kasthuri,  
Zhe Chen, Zahira Tber, Mohammed Loubidi,  
HongWang Zhang, Longhu Zhou, Shaoman Zhou,  
Chenwei Li, Amita Kumari, Sijia Tao, John M. Wiseman,  
Selwyn J. Hurwitz, Franck Amblard\*  
and Raymond F. Schinazi\*

132

**Harnessing biological insights to accelerate drug discovery against ESKAPE pathogens**Tashi Palmo, Vishwani Jamwal, Diksha Kumari  
and Kuljit Singh\*

## REVIEWS

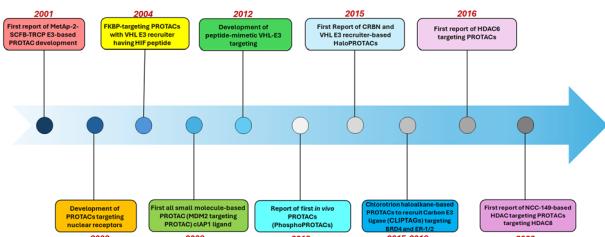
163



## Stereoselective design of amino acid bioconjugates: targeting strategies and physicochemical optimization

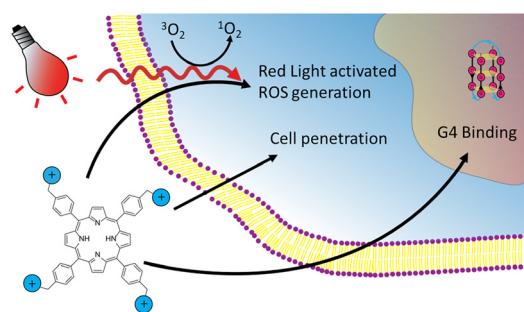
Soma Mandal, Rajat Choudhary and V Badireenath Konkimalla\*

208



## RESEARCH ARTICLES

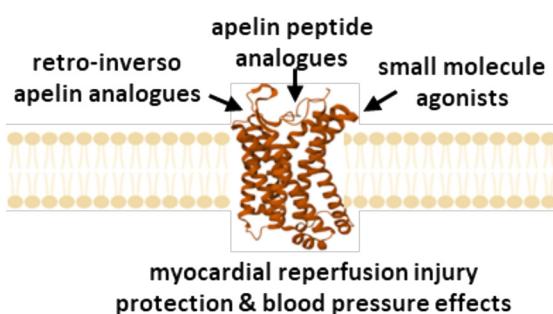
225



## Water-soluble cationic porphyrins with enhanced phototoxicity to cancer cell lines for G4-targeting photodynamic therapy

Çetin Çelik, Naoko Kakusho, Tianyu Xu, Sung Sik Lee, Naoko Yoshizawa-Sugata,\* Hisao Masai\* and Yoko Yamakoshi\*

236



## Screening apelin analogues and a small molecule agonist as effective cardiovascular therapeutics against reperfusion injury

Anjalee Wijewardane, Kleinberg X. Fernandez, Anran Zhang, Conrad Fischer, Dineth P. Nagahawatta, Xavier Iturrioz, Charlotte Avet, Bethan L. Heard, Catherine Llorens-Cortes, Gavin Y. Oudit, Michel Bouvier and John C. Vederas\*

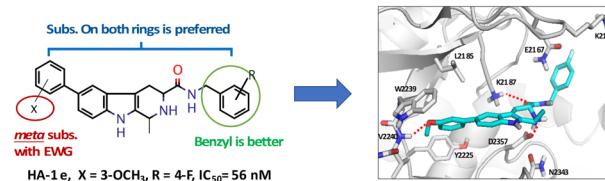


## RESEARCH ARTICLES

245

**Discovery of indole- and quinolone-based inhibitors of the mTOR/Akt/Pi3K pathway for the potential treatment of autism and certain types of cancer**

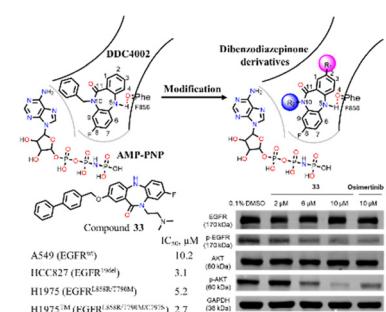
Ahmad Elshahary, Hesham Safwan, Ahmad Abdelwaly, Reem K. Arafa and Mohamed A. Helal\*



263

**Design, synthesis and structure–activity relationship analysis of dibenzodiazepinone derivatives against Osimertinib resistant NSCLC**

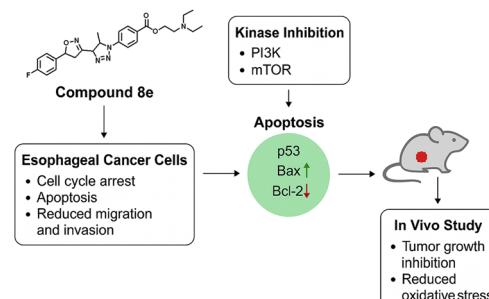
Chengliu Jin, Zhen Zhang, Peng Liao, Chen Zhang, Hua Cao\* and Yan-Long Ma\*



286

**Design, synthesis, and biological evaluation of procaine-based triazole–isoxazoline hybrids as selective PI3K/mTOR inhibitors for esophageal cancer therapy: *in vitro* and *in vivo* studies**

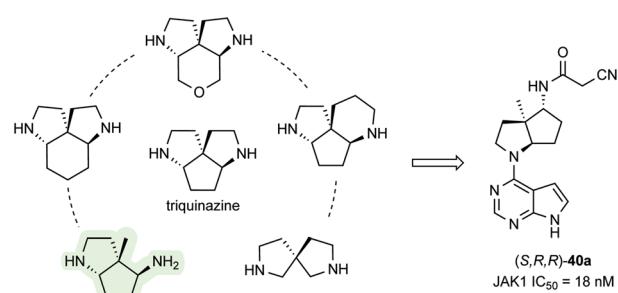
Yinliang Sheng, Bin Wu, Feng Li and Chunyang Zhang\*



310

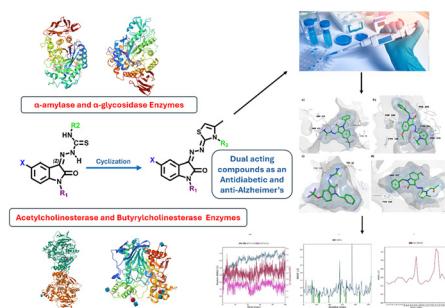
**Diversifying the triquinazine scaffold of a Janus kinase inhibitor**

Kleni Mulliri, Kris Meier, Johanna-Dorothea Feuchter, Sacha Javor, Matheus A. Meirelles and Jean-Louis Reymond\*



## RESEARCH ARTICLES

317



## 2-Oxoindolin-thiazoline hybrids as scaffold-based therapeutics for T2DM-associated cognitive impairment: design, synthesis, *in vitro* and *in silico* studies

Wesam S. Qayed,\* Mostafa A. Hassan, Halil Şenol, Parham Taslimi and Tarek Aboul-Fadl

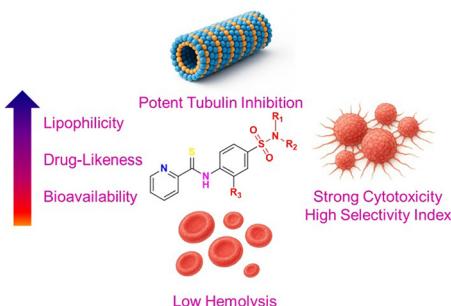
343



## Oxadiargyl analogs as potent inhibitors of *Toxoplasma gondii* protoporphyrinogen oxidase

Samuel Kwain, Vikky Awasthi, Rajib Islam, Shivani Kore, Emma Polaski, Kerrick C. Rees, Zhicheng Dou,\* and Daniel C. Whitehead\*

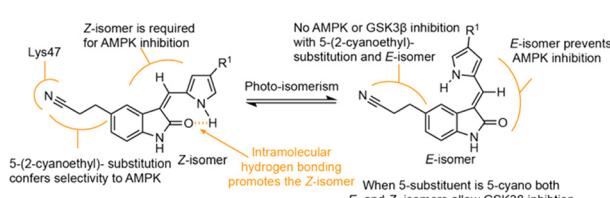
354



## Design, synthesis, and biological evaluation of sulfonamide-functionalized pyridine carbothioamides as potent tubulin-targeting anticancer agents

Fatima Younas, Jahan Zaib Arshad,\* Waqas Ali Shah,\* Sundas Arshad, Adnan Ashraf, Syed Shoaib Ahmad Shah,\* Muhammad Asam Raza, Amara Mumtaz, Nasir Shahzad and Tariq Javed

370



## The structural requirements of 3,5-substituted oxindoles that determine selective AMPK or GSK3 $\beta$ inhibition

Juliet E. Strang, Daniel D. Astridge, Caleb Chandler, Vu T. Nguyen and Philip Reigan\*

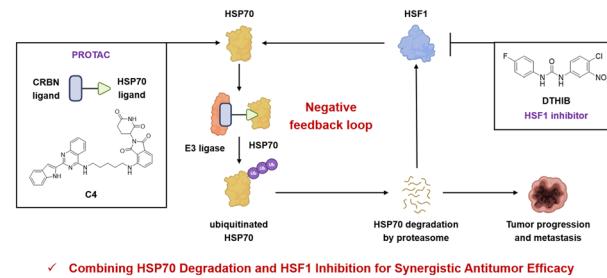


## RESEARCH ARTICLES

385

## Design and evaluation of an HSP70-targeting PROTAC in synergy with an HSF1 inhibitor for enhanced antitumor activity

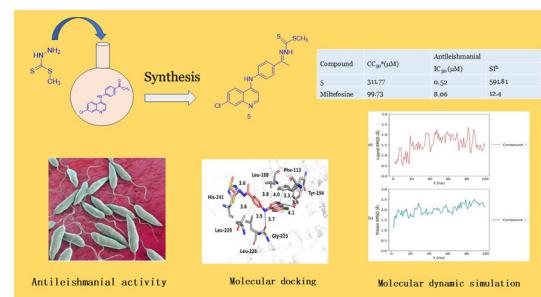
Wei-Hao Huang, Teng-Yu Mao, Guo-Yao Dai, Jian-Mei Ye, Jia-Bao Li, Shuo-Bin Chen, Jia-Heng Tan, Zhi-Shu Huang and Shi-Liang Huang\*



396

## An exploration of potent antileishmanial agents derived from quinoline-thiazole and thiadiazole hybrids, targeting DHFR-TS and PTR1: design, synthesis, and computational analyses

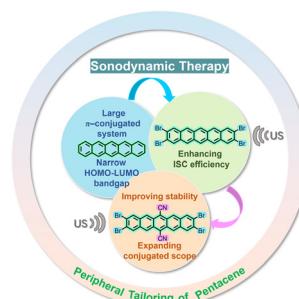
Huda R. M. Rashdan, Adnan A. Bekhit, Veronika Furlan, Kikuko Amagase, Abdelsamed I. Elshamy, Nourhan Elfar, Mohamed. R. Abdo, Tamer M. Ibrahim, Urban Bren, Wagdy M. Eldehna\* and Ahmed Sabt\*



411

## Peripheral tailoring of pentacene: developing next-generation organic sonosensitizers for cancer sonodynamic therapy

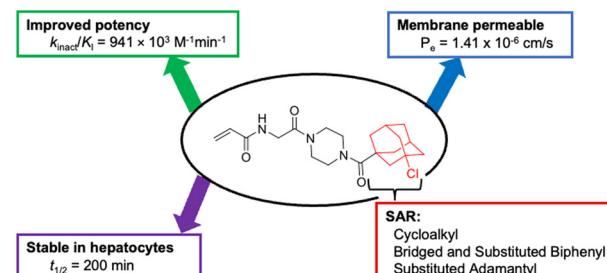
Nan Han, Yu Zhang,\* Chunyuan Hou, Jun Gu and Jun Luo\*



422

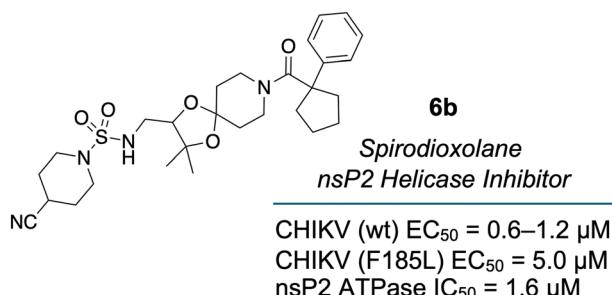
## Structure–activity relationships of hydrophobic small molecule irreversible inhibitors of tissue transglutaminase

Daniel A. Wallace, Sarah Tribe, Pauline Navals, Christina Bi, Tarasha Sharma and Jeffrey W. Keillor\*



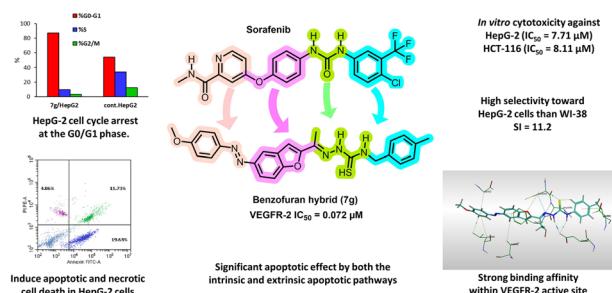
## RESEARCH ARTICLES

452

**Identification of spirodioxolane nsP2 helicase inhibitors with antialphaviral activity**

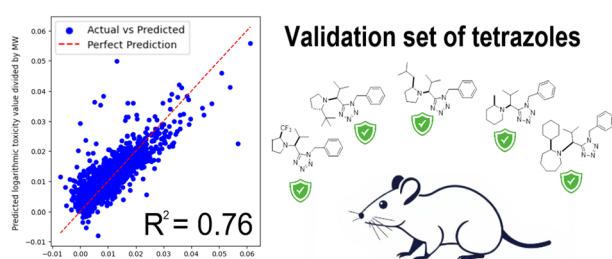
Hans J. Oh, John D. Sears, Bose Muthu Ramalingam, Rahman Shah Zaib Saleem, Zachary W. Davis-Gilbert, Mohammed Anwar Hossain, Stella R. Moorman, Durbadal Ohja, Sabian A. Martinez, Jane E. Burdick, Rafael M. Couñago, Nathaniel J. Moorman, Mark T. Heise, Matthew H. Todd and Timothy M. Willson\*

477

**Design and synthesis of sorafenib-inspired benzofuran hybrids as VEGFR-2 inhibitors: antiproliferative evaluation, mechanistic insights, and docking studies in hepatocellular carcinoma**

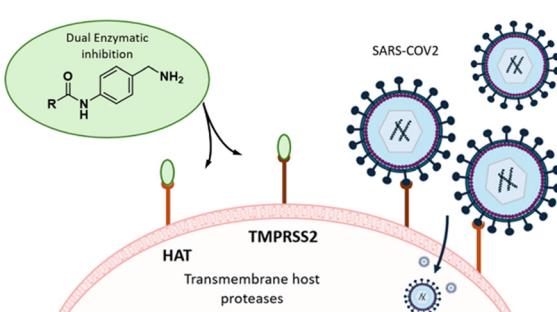
Mohamed S. Shehda,\* Aya M. Almatary, Mohamed S. H. Salem,\* Mohamed H. Aboutaleb, Shinobu Takizawa, Yasmine M. Abdel Aziz, Magda A. A. El-Sayed\* and Ranza Elrayess

494

**Machine learning prediction of acute toxicity with *in vivo* experiments on tetrazole derivatives**

Danil P. Zarezin,\* Alexander A. Shtil, Valentin G. Nenajdenko and Sophia S. Borisevich

506

**Identification of *p*-aminobenzylamine derivatives as dual non-covalent inhibitors of the transmembrane host proteases TMPRSS2 and HAT proteases with anti-viral potential**

Hélène Carvaillo, Ashok Dussol, Nancy Chaaya, Sara Kadri, Feryel Soualmia, Nicolas Masurier\* and Chahrazade El Amri\*

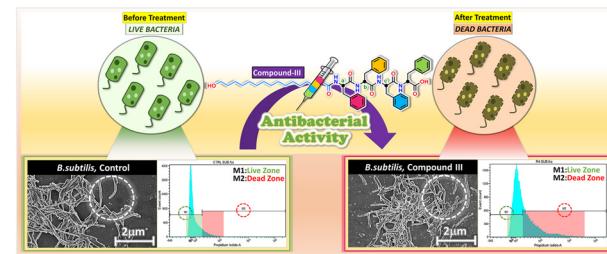


## RESEARCH ARTICLES

517

**Unravelling the antibacterial performances of a homochiral D-configured tetraphenylalanine appended 16-HPA derivative based mechanoresponsive and proteolytically stable hydrogel**

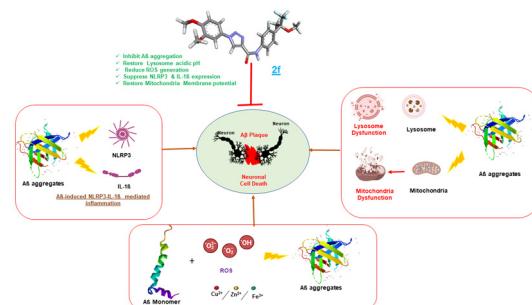
Vaibhav Shivhare, Anindya Basu and Anita Dutt Konar\*



531

**Synthesis and evaluation of HFIP bearing triazolo-amides as amyloid- $\beta$  aggregation inhibitors and suppressors of aggregation induced neuroinflammation**

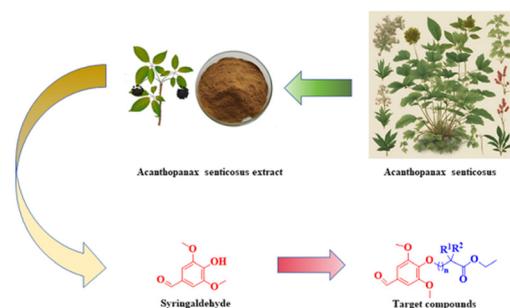
Bhaskar Dewangan, Parijat Swain, Srimanta Patra, Praveen Reddy Bodhe, Neeraj Kulkarni and Bichismita Sahu\*



549

**Molecular hybridization of syringaldehyde and fibrate pharmacophores yields a novel derivative with potent, multi-target lipid-lowering activity**

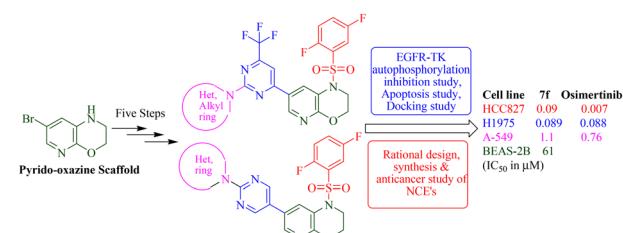
Wenjing Li, Boling Zhou, Kexin Xu, Yunbi Zhang, Huanxian Shi, Ling Ding, Huiyi Shangguan, Yongheng Shi, Xinya Xu, Jiping Liu and Yundong Xie\*



565

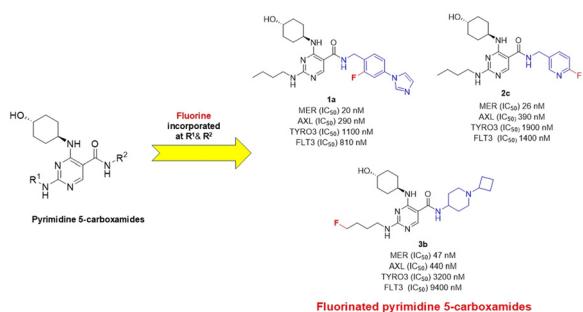
**Novel pyrido[2,3-*b*][1,4]oxazine-based EGFR-TK inhibitors: rational design and synthesis of potent and selective agents targeting resistance mutations in non-small cell lung cancer**

Vaibhav B. Yadav, Shailee V. Tiwari, S. Hemant Kumar and Santosh R. Deshmukh\*



## RESEARCH ARTICLES

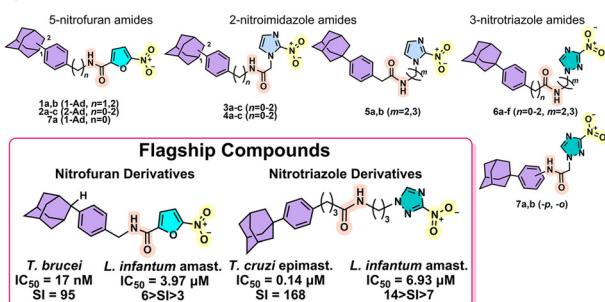
581



## Fluorinated pyrimidine 5-carboxamides as potential tools for MERTK targeted fluorine-18-PET-radioligand development

Ramesh Mudududdla, Siu Wai Wong, Nghi Nguyen, Lian Xue, Michael A. Stashko, Xiaodong Wang, Lucy Vivash, Michele D. Binder, Uwe Ackermann, Ylva E. Bozikis, Trevor J. Kilpatrick\* and Jonathan B. Baell\*

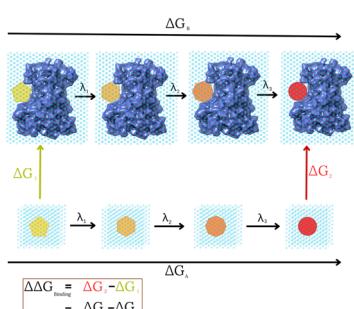
590



## Synthesis and evaluation of nitroheterocyclic aromatic adamantane amides with trypanocidal activity. Part II

Angeliki-Sofia Foscolos, Richard L. Atherton, Maria Billia, Markos-Orestis Georgiadis, Nuno Santarém, Anabela Cordeiro da Silva, Martin C. Taylor, John M. Kelly, Theodora Calogeropoulou, Andrew Tsotinis, Thomas Mavromoustakos and Ioannis P. Papanastasiou\*

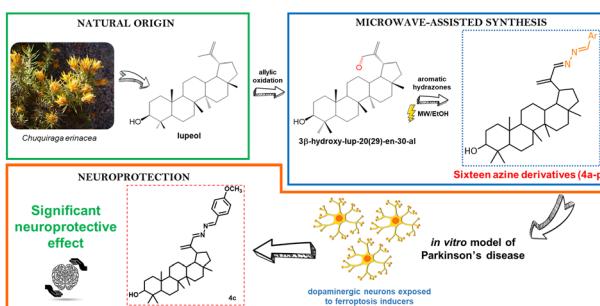
606



## Evaluating the FEP+ protocol for predicting binding affinity of congeneric ligands towards various soluble proteins

Shashi Kumar Sampangin Venkatesh, Arpan Das and Naga Rajiv Lakkanna\*

618



## Synthesis and evaluation of lupeol-derived triterpenic azines as potential neuroprotective agents

Florencia A. Musso, Natalia P. Alza,\* Gabriela A. Salvador and María Belén Faraoni\*

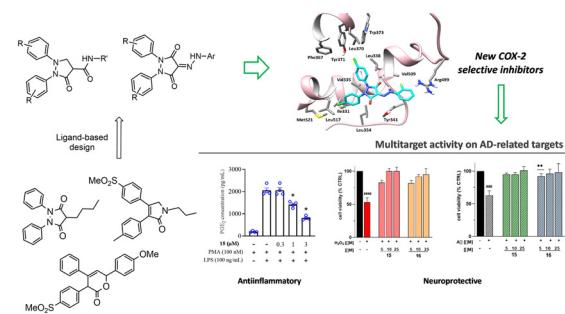


## RESEARCH ARTICLES

630

## Exploring pyrazolidinone and pyrazolidinedione scaffolds for Alzheimer's therapy: multitarget COX-2 inhibitors with anti-amyloid $\beta$ , anti-tau, antioxidant, and neuroprotective activities

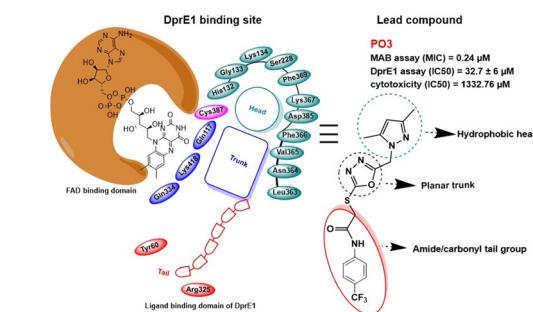
Michael Emad, Reham Waheed, Zeinab Mostafa, Sarah S. Darwish, Rosa Purgatorio, Daniela Valeria Miniero, Annalisa De Palma, Tzu-Peng Cheng, Yu-Cheng Chen, Moustafa Gabr, Ahmed M. El Kerdawy, Marco Catto, Ashraf H. Abadi, Tsong-Long Hwang\* and Mohammad Abdel-Halim\*



658

## Developing pyrazole–oxadiazole conjugates as potent anti-tubercular agents: an *in silico* and *in vitro* approach

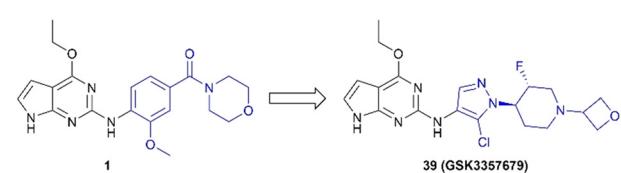
Sethu Arun Kumar, Gurdyal Besra, Sarah Batt, V. M. Chandrashekhar, Manisha Singh, H. S. Akshatha, Meduri Bhagyalalitha, Karthik G. Pujar, Durgesh Bidye, Madhukumari and Gurubasavaraj Veeranna Pujar\*



676

## Discovery and optimization of pyrrolopyrimidines as highly potent, selective and brain-penetrant LRRK2 inhibitors

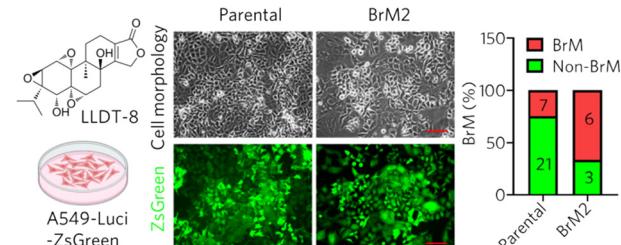
Jeffrey M. Axten,\* Xiao Ding, Luigi Piero Stasi, Baowei Zhao, Yingxia Sang, Ming-Hsun Ho, Lizhen Wang, Minhua Zhang, Xianjun Guo, Chengfang Tan, Xu Feng, Colin Edge, Klara Valko, Yi Li, Kelly Dong, Xiaoming Guan, Nico Zinn, F. David Tattersall, Feng Ren, Dai-Shi Su and Alastair D. Reith



686

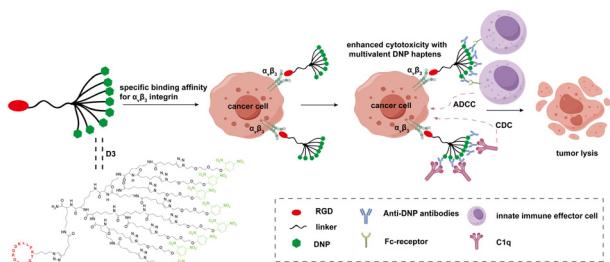
## LLDT-8 attenuates brain metastasis in non-small cell lung cancer *via* selective p53 activation

Junjie Liu, Lun Liang, Zhenning Wang, Kunsheng Wei, Zhixiong Liang, Junlei Chang, Rongfeng Lan,\* Chunhua Wang\* and Min Yu\*



## RESEARCH ARTICLES

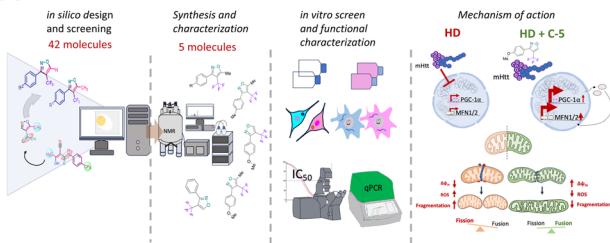
698



**Integrin-specific binding macrocyclic RGD peptides functionalized with dinitrophenol as multivalent antibody-recruiting molecules to enhance cytotoxicity in cancer immunotherapy**

Xiaozhong Cheng,\* Chenrui Hu, Wanru Gao, Yajun Chen, Wei Wang, Guilan Zhu and Zhimeng Wu\*

705



**Novel small molecule derivatives improve survivability in the cellular model of Huntington's disease via improving mitochondrial fusion**

Pradeep Kodam, Vaishali Kumar, Paramita Pattanayak, Praharsh Vitta, Tanmay Chatterjee\* and Shuvadeep Maity\*

## CORRECTION

723

**Correction: Novel small molecule derivatives improve survivability in the cellular model of Huntington's disease via improving mitochondrial fusion**

Pradeep Kodam, Vaishali Kumar, Paramita Pattanayak, Praharsh Vitta, Tanmay Chatterjee\* and Shuvadeep Maity\*