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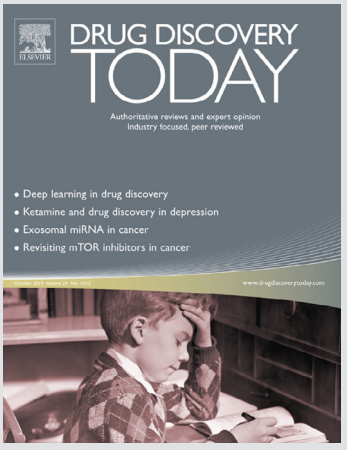


**Cover Story**
The lead story in this issue of *Drug Discovery Today* is by Antonio Lavecchia of The Department of Pharmacy, 'Drug Discovery' Laboratory, University of Napoli 'Federico II', Napoli, Italy. This paper focuses on deep learning approaches in the context of drug discovery for designing new effective molecules, for predicting the desired molecular property profiles and for planning their synthesis.

## EDITORIAL

**1955 Sharpening the focus on cancer tumours**
*Josephine Bunch*

## PERSPECTIVE

### FEATURE

**1957 Potential effects of increased openness in pharma: the original knowledge behind new drugs**
*Francesca Bignami and Pauline Mattsson*

**1963 Are we ready to close the discussion on the interchangeability of biosimilars?**
*Hans C. Ebbers and Huub Schellekens*

## REVIEWS

### KEYNOTE

**1968 Neurobiology and therapeutic utility of neurotoxins targeting postsynaptic mechanisms of neuromuscular transmission**
*Naira M. Ayvazyan, Valerie B. O'Leary, J. Oliver Dolly and Saak V. Ovsepian*

**1985 Nucleolin-based targeting strategies for cancer therapy: from targeted drug delivery to cytotoxic ligands**
*Sofia Romano, Nuno Fonseca, Sérgio Simões, João Gonçalves and João Nuno Moreira*

**2002 Methods to identify and optimize small molecules interacting with RNA (SMIRNAs)**
*Andrei Ursu, Simon Vézina-Dawod and Matthew D. Disney*

**2017 Deep learning in drug discovery: opportunities, challenges and future prospects**
*Antonio Lavecchia*

**2033 The influence of ketamine on drug discovery in depression**
*Christoph Kraus, Daniel Wasserman, Ioline D. Henter, Elia Acevedo-Diaz, Bashkim Kadriu and Carlos A. Zarate Jr*

**2044 Cervical cancer and HPV infection: ongoing therapeutic research to counteract the action of E6 and E7 oncoproteins**
*Ana M. Almeida, João A. Queiroz, Fani Sousa and Ângela Sousa*

### GENE TO SCREEN

**2058 Exosomal miRNA in chemoresistance, immune evasion, metastasis and progression of cancer**
*Bhagyashri Kulkarni, Prathibha Kirave, Piyush Gondaliya, Kavya Jash, Alok Jain, Rakesh K.Tekade and Kiran Kalia*

### INFORMATICS

**2068 Ontology mapping for semantically enabled applications**
*Ian Harrow, Rama Balakrishnan, Ernesto Jimenez-Ruiz, Simon Jupp, Jane Lomax, Jane Reed, Martin Romacker, Christian Senger, Andrea Splendiani, Jabe Wilson and Peter Woollard*

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