

## Sanofi-Cell Research outstanding paper award of 2010

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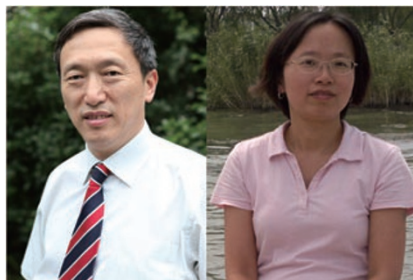
We are pleased to announce the winners of the 2<sup>nd</sup> annual Sanofi-Cell Research Outstanding Paper Award, for papers published in the print issues of *Cell Research* in 2010. Dr Wen-Chao Song receives the 2010 Sanofi-Cell Research Outstanding Review Article Award, for his review paper entitled “Complement and its role in innate and adaptive immune responses” [1]. The winners for the 2010 Sanofi-Cell Research Outstanding Research Article Award are Drs Gang Pei and Jian Zhao, for their paper entitled “A GPCR/secretase complex regulates  $\beta$ - and  $\gamma$ -secretase specificity for A $\beta$  production and contributes to AD pathogenesis” [2]; and Drs Charlie Degui Chen and Naihe Jing, for their paper entitled “Dual-specificity histone demethylase KIAA1718 (KDM7A) regulates neural differentiation through FGF4” [3]. The award consists of a prize of € 3 000 for the Outstanding Review Article Award and € 5 000 for the Outstanding Research Article Award provided by Sanofi. The winner must be the corresponding author(s) of the paper. The three award-winning papers (one review and two research articles) are selected by the Sanofi-Shanghai Institutes for Biological Sciences Steering Committee based on their scientific excellence.



The complement system is a major part of the innate immune system and plays an important role in the clearance of pathogens

and thus the fight against infection. Song’s review article [1] summarizes the roles of the complement system both in the innate detection and elimination of pathogenic infections and in the modulation of adaptive immune responses. This review provides an expert synthesis of the up-to-date knowledge of the functions of the complement system.

Amyloid- $\beta$  (A $\beta$ ) is a peptide derived from the amyloid precursor protein (APP) through cleavages by the  $\beta$ -site APP-cleaving enzyme 1 (BACE1) and  $\gamma$ -secretase complex, and plays an important role in the pathogenesis of Alzheimer’s disease (AD). The paper by Pei and Zhao [2] reports that  $\delta$ -opioid receptor (DOR) promotes the processing of APP by BACE1 and  $\gamma$ -secretase, through complex formation between DOR and the secretases. They further show that knockdown or antagonization of DOR reduces secretase activities and ameliorates A $\beta$  pathology and A $\beta$ -dependent behavioral deficits, but does not affect the processing of other secretase substrates such as Notch, N-cadherin or APLP in AD model mice. These findings suggest that targeting the DOR/secretases interface may represent a new therapeutic strategy against AD with potentially fewer side effects. This paper was also highlighted by Faculty of 1000 [4] and Nature China [5].



Histone methylation is dynamically regulated by histone methyltransferases and histone demethylases. The paper by Chen and Jing [3] reports the identification of a novel histone demethylase with a unique dual-specificity for dimethylations at K9 and K27 of histone H3 (H3K9me2 and H3K27me2). Using embryonic stem (ES) cells as a model system, they show that the activity of this demethylase (named as KDM7A) is required for the demethylation of H3K9me2 and H3K27me2 at the promoter region of the FGF4 gene, and plays an important role in neural differentiation of ES cells. This study provides novel insights into both the biochemical actions and functional roles of histone demethylases.



We would like to extend our warm congratulations to the winners, and hope that highlighting these papers by the Sanofi-Cell Research Outstanding Paper Award will encourage others to submit their best papers to *Cell Research* in the future.

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## References

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- 3 Huang C, Xiang Y, Wang Y, *et al.* Dual-specificity histone demethylase KIAA1718 (KDM7A) regulates neural differentiation through FGF4. *Cell Res* 2010; **20**:154-165.
- 4 Bockaert J. <http://f1000.com/2359957#eval1988055>
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