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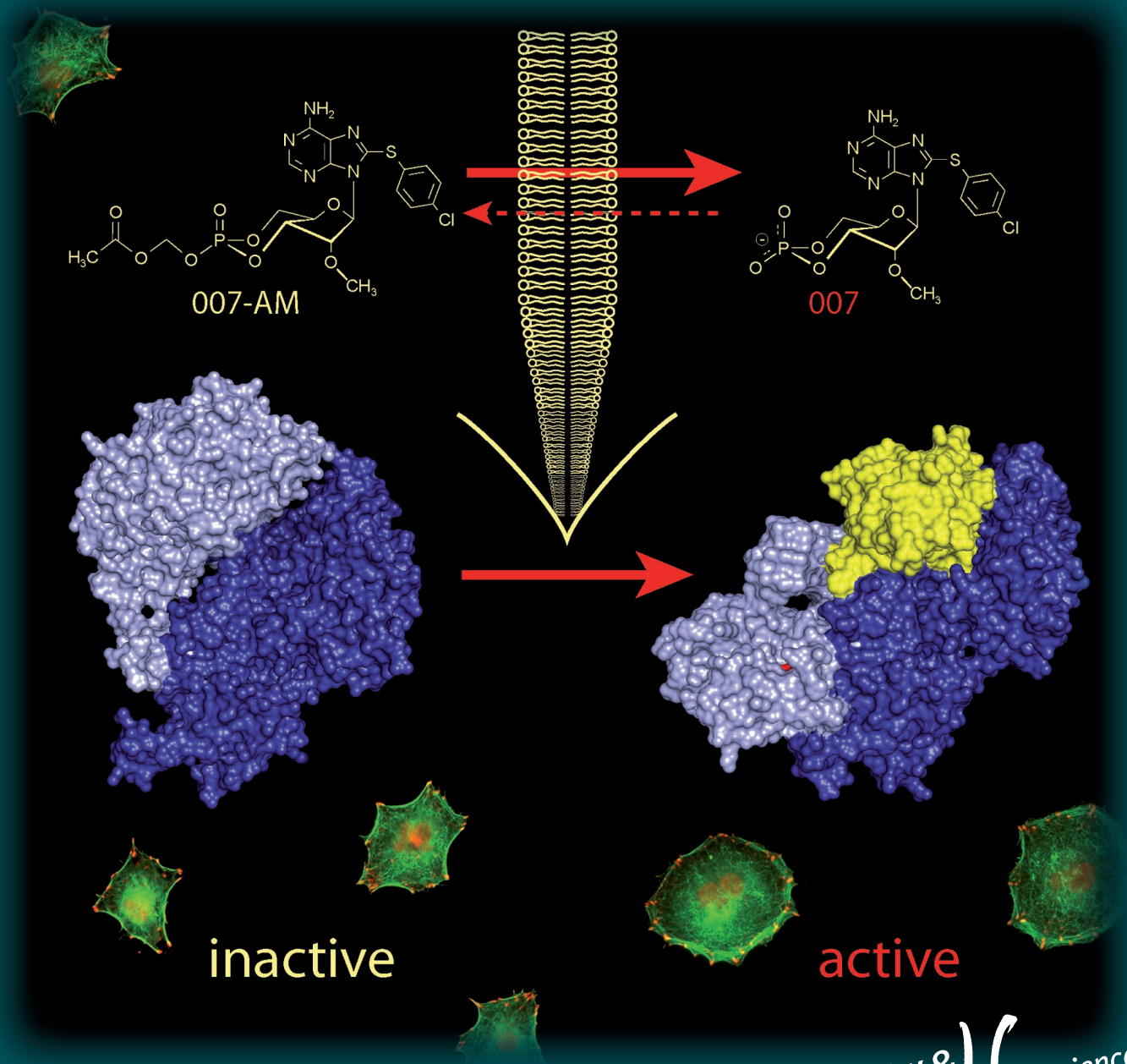

Chemistry & Life Sciences

13/2008

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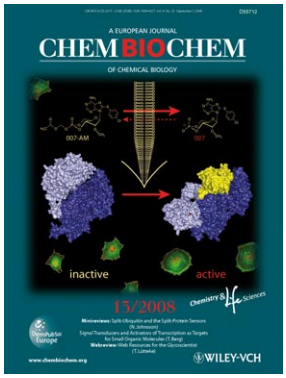
Cover Picture



Marjolein J. Vliem, Bas Ponsioen, Frank Schwede, Willem-Jan Pannekoek, Jurgen Riedl, Matthijs R. H. Kooistra, Kees Jalink, Hans-Gottfried Genieser, Johannes L. Bos*, and Holger Rehmann*

The cover picture shows the chemical structure of an acetoxymethyl ester of 8-pCPT-2′-*O*-Me-cAMP (007-AM). 007-AM can pass cell membranes efficiently and is hydrolysed inside the cell by esterases to release the biologically active compound 8-pCPT-2′-*O*-Me-cAMP (007). Due to its low membrane permeability 007 accumulates inside the cell, where it activates the cAMP receptor protein Epac. The inactive conformation of Epac is shown on the left, with the regulatory region in light blue and the catalytic region in dark blue. Binding of cAMP or 007 to Epac leads to a repositioning of the regulatory region, which allows the substrate protein Rap (yellow) to bind and become activated. Activated Rap causes several biological effects, such as the spreading of cells, shown here for A549-B14 cells. For more information see the article by J. L. Bos, H. Rehmann et al. on p. 2052 ff. (Images of cells were kindly provided by Dr. Sarah Ross).