CYCLE DE CONFÉRENCES DE CHIMIE

Avec le concours de : Université Clermont Auvergne
INP Clermont Auvergne

Jeudi 26 janvier à 16 h

Amphi Rémi (site des Cézeaux)

Muriel AMBLARD

Institut des Biomolécules Max Mousseron (IBMM) – UMR 5247, ENSCM, Montpellier

Peptide-based chemical tools and PROTACS to address biological challenges

For decades, drug discovery mainly focused on the activation and inhibition of protein functions through thedevelopment of small molecules fitting into enzyme and receptor pockets. Although successful, this strategycannot be applied to all biological targets, including proteins without enzymatic activity or proteins that functionvia protein-protein interaction (PPIs). At the end of the 20th century, there has been an emergence of new classes of therapeutics including biologics (in particular antibodies) and siRNA. Despite undeniable advantages, suchmolecules can present some drawbacks, such as size, ability to cross the cell membrane for targeting intracellularproteins, stability, delivery and off-target issues. Here, we present some alternative strategies to these moleculesto develop drug candidates able to modulate proteins involved in pathologies but also to develop cell-penetrating compounds able to deliver bioactive molecules in the cells. The first strategy concerns the design of specifictherapeutic tools based on the stapled peptides and foldamers technologies for inhibiting PPI interactions anddeveloping cell-penetrating compounds. The second strategy is based on the use of the proteolysis-targetingchimeras (PROTAC) technology to trigger target proteins for degradation.

Coordinateurs : Alain DEQUIDT ☎ 33 473 407 194 courriel : alain.dequidt@uca.fr
Pierre BONNET ☎ 33 473 407 648 courriel : pierre.m.bonnet@uca.fr
Institut de Chimie de Clermont-Ferrand (ICCF-UMR 6296)
Université Clermont Auvergne, 24, avenue Blaise Pascal, TSA 80026 63178 AUBIERE cedex-France