



INSTITUTE  
FOR RESEARCH  
IN BIOMEDICINE

# Barcelona BioMed Conference

## Proximity-inducing pharmacology: Targeted protein degradation and beyond 22-24 May, 2023

### Monday, 22 May

8.30 Registration

9.00 Welcome by Directorate of IRB Barcelona and organizers  
(Dr. Cristina Mayor-Ruiz and Dr. Georg E. Winter)

#### Session 1: Proteolysis Targeting Chimeras (PROTACs)

Chair: Dr. Marie-Helene (Barcelona, Spain)

9.15 Dr. Fleur M. Ferguson, University of California San Diego (San Diego, CA, USA)

9.45 Dr. William Farnaby, University of Dundee (Dundee, UK)

10.15 **Advancing targeted protein degraders and bringing them into the clinic**  
Dr. Danette L. Daniels, Foghorn Therapeutics (CA, MA, USA)

10.45 -11.30 *Coffee break and poster session*

11.30 **Short talk 1: Directing the E3 ligase pair SIAH1/2 towards degradation of neosubstrates using covalent PROTACs**  
Lena Münzker, Boehringer Ingelheim RCV GmbH & Co KG (Vienna, Austria)

11.45 Dr. Alessio Ciulli, University of Dundee (Dundee, UK)

12.15 Dr. Craig M. Crews, Yale University (New Haven, CT, USA)

12.45 **Short talk 2: An intramolecular bivalent degrader glues an intrinsic BRD4-DCAF16 interaction**  
Angus Cowan, University of Dundee (Dundee, UK)

13.00 -14.30 *Lunch and poster session*

### Session 2: Molecular glues

Chair: Dr. Jay Bradner (CA, MA, USA)

14.30 Dr. Cristina Mayor-Ruiz, IRB Barcelona (Barcelona, Spain)

15.00 **Structural Mechanisms of Molecular Glue Degraders**  
Dr. Eric Fischer, Dana-Farber Cancer Institute (Boston, MA, USA)

15.30 **Identification and characterization of small-molecule degraders**  
Dr. Georg E. Winter, CeMM (Vienna, Austria)

16.00 - 16.45 *Coffee break and poster session*

16.45 **Short talk 3: Understanding cooperativity effects in the drug-dependent degradation of the Cereblon neosubstrate CK1 alpha**  
Jordi Juárez-Jiménez, UB (Barcelona, Spain)

17.00 **Design principles for cyclin K molecular glue degraders**  
Dr. Nicolas H. Thomä, FMI (Basel, Switzerland)

17.30 **Mechanism of action of velcrin small molecules**  
Dr. Heidi Greulich, Broad Institute (Cambridge, MA, USA)

18.00 **Short talk 4: BTB<sub>BCL6</sub> dimers as building blocks for reversible drug-induced protein oligomerization**  
Mikołaj Słabicki, BROAD Insitiute (Cambridge, USA)

18.15 *End of session*

## Tuesday, 23 May

Session 3: Targeted degradation beyond the proteasome  
Chair: Dr. Ingo Hartung (Darmstadt, Germany)

9.00 **Targeting extracellular and membrane proteins for degradation via lysosome targeting chimeras (LYTACs)**  
Dr. Green Ahn, Stanford University (Stanford, CA, USA)

9.30 **BacPROTACs mediate targeted protein degradation in bacteria**

Dr. Francesca E. Morreale, IMP, The Francis Crick Institute (London, UK)

10.00 **Short talk 5: Development of next generation AUtophagy TArgeting Chimeras (AUTACs) to enable proximity induced degradation of mitochondria**  
Niyaz Zaman, University College London (London, UK)

10:15 **Short talk 6: Multicomponent Reaction-Based Approach to Novel Aryl Hydrocarbon Receptor Activators, PROTACs and HomoPROTACs**  
Ouldouz Ghashghaei, IBUB- UB (Barcelona, Spain)

10.30 -11.30 *Coffee break and poster session*

11.30 **Short talk 7: Induced self-elimination of the Clp protease system as antibiotics strategy**  
David M. Hoi, Institute of Molecular Pathology (Vienna, Austria)

11.45 **Targeting unexplored E3 ligases with small molecules**  
Dr. Carles Galdeano, UB Barcelona (Barcelona, Spain)

12:15 Dr. Mathew Disney, UF Scripps Biomedical Research (La Jolla, CA, USA)

12:45-14.30 *Lunch and poster session*

**Session 4: Inducing and removing post-translational modifications: ubiquitin and beyond**  
Chair: TBD

14.30 Dr. Sayumi Yamazoe, Bristol-Myers Squibb (CA, USA)

15.00 **Reimagining Druggability using Chemoproteomic Platforms**  
Dr. Daniel K. Nomura, University of California, Berkeley (Berkeley, CA, USA)

15.30 **Short talk 8: Development of a novel type of proteolytic chimera based on direct 26S proteasome targeting**  
Bernat Crosas, IQAC-CSIC (Barcelona, Spain)

15.45 **Short talk 9: E3-ID: an innovative system to identify targets of E3 ligases**  
James D. Sutherland, CIC bioGUNE (Bizkaia, Spain)

16.00- 16.45 *Coffee break and poster session*

16.45 Dr. Amit Choudhary, Broad Institute (CA, MA, USA)

17:15 Dr. Christopher G. Parker, The Scripps Research Institute (La Jolla, CA, USA)

17.45 **Short talk 10: HiBiT-SpyTag: A minimal tag for covalent protein capture and degrader development**  
Radosław P. Nowak, Dana-Farber Cancer Institute (Boston MA, USA)

18.00 *End of session*

20.30 *Speakers dinner (Restaurant Can Pineda) (Sant Joan de Malta, 55)*

## Wednesday, 24 May

**Session 5: Proximity-inducing pharmacology: new approaches and computational methods**

**Chair: TBD**

9.00 **Short talk 11: Target- and E3-driven discovery of molecular glue degraders via accelerated molecular simulations**

Carles Perez-Lopez, IRB Barcelona (Barcelona, Spain)

9.15 **Short talk 12: Finding all our switches: fast global mapping of the allosteric landscape for KRAS inhibition**

Ben Lehner, Wellcome Sanger Institute & CRG (Barcelona, Spain)

9.30 Dr. Patrick Aloy, IRB Barcelona (Barcelona, Spain)

10.00 Dr. Víctor Guallar, BSC (Barcelona, Spain)

10.30 -11.15 *Coffee break and poster session*

11.15 **Short talk 13: Supercharging kinase turnover - rationalizing non-obvious destabilization mechanisms**

Natalie S. Scholes, CeMM (Vienna, Austria)

11.30 **Short talk 14: Transcriptional chemical inducers of proximity to rewire cancer drivers**

Sai Gourisankar, Stanford University (Stanford, CA, USA)

11.45 Dr. Miquel Duran-Frigola, Ersilia Open Source Initiative (Cambridge, UK)

12.15 **Short talk 15: DEGRONOPEDIA - a web server for proteome-wide inspection of degrons**

Natalia A. Szulc, IIMCB (Warsaw, Poland)

12.30 *Concluding remarks and end of conference*