SAPIENZA UNIVERSITÀ DI ROMA

DIPARTIMENTO DI SCIENZE BIOCHIMICHE A. ROSSI FANELLI

Dottorato di Ricerca in Biochimica

AVVISO DI SEMINARIO

22 Marzo 2019 — 12:00

Aula C (CU010)
Dipartimento di Scienze Biochimiche

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Protein dissection approach: a powerful tool in drug discovery processes

Abstract. Protein three dimensional structure is the complex recapitulation of local and distant intramolecular forces that cooperatively contribute to maintain finely tuned energetic equilibria. Secondary structure motifs and small domains might act as building blocks whose characterization would gain insights into the protein global structure but also to modulate interactions with external partners in its interactome [1]. Furthermore normally folded proteins can access to amyloidogenic states that are often considered as an ensemble of native-like conformations with locally unfolded elements. The characterization of intermediate amyloidogenic species is crucial to elucidate potential aggregation under native conditions and for in vivo aggregation events [2]. The talk will be focused on interdisciplinary approaches for the investigations of protein structure, function and evolution. Examples of protein dissection investigations will be reported both for the identification of potential new drugs in inflammatory/cancer diseases [3] and to investigate the destabilisation, aggregation, toxicity and cellular mislocalisation of nucleolar proteins [4] to explore new therapeutic ways.

References

[1] M.R. Hoopmann, R.L. Moritz, Current opinion in biotechnology, 24 (2013) 31-38.
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[3] S. La Manna, E. Lee, M. Ouzounova, C. Di Natale, E. Novellino, A. Merlino, H. Korkaya, D. Marasco, International journal of cancer, (2018).
[4] P.L. Scognamiglio, C. Di Natale, M. Leone, R. Cascella, C. Cecchi, L. Lirussi, G. Antoniali, D. Riccardi, G. Morelli, G. Tell, F. Chiti, D. Marasco, Oncotarget, 7 (2016) 59129-59143.

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