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Programme & Abstracts



interaction with β -lactams. Additionally, we have used the surface plasmon resonance (SPR)⁷ to describe in details the specific modification produced by VanYn on peptidoglycan analogues immobilized on microchips. Our goal is using VanYn, as a novel target to screen for specific inhibitors, which could be used in combination with antibiotics to face emerging resistant infections.

¹Binda E *et al.* FEBS J. 2012; 279:3203-13

²Dalmastri C *et al.* IJSEM 2016, 66:912-21

³Marcone GL *et al.* AAC 2010; 54:2465-72

⁴Marcone GL *et al.* AAC 2014; 58:5191-201

⁵Binda E *et al.* Antibiotics (Basel). 2014; 3:572-94

⁶Binda E *et al.* BMC Biotech. 2013; 16:13-24

⁷Treviño J *et al.* Chem. Eur. J. 2014; 20:7363-72

B5. Biological diversity of the microbial film associated with the central-Mediterranean *Dendropoma cristatum* (Biondi, 1859) reefs

E.C. La Marca^a, V. Catania^b, M. Tagliavia^{b, d}, M.T. Sardina^c, R. Di Gerlando^c, M. Milazzo^a, R. Chemello,^a P. Quatrini^b

^aDipartimento di Scienze della Terra e del Mare, DISTEM, Via Archirafi 22, 90123, Palermo;

^bDipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche, STEBICEF, Viale delle Scienze Ed. 16, 90128, Palermo; ^cDipartimento di Scienze Agrarie, Alimentari e Forestali SAAF Viale delle Scienze Ed. 4 90128 Palermo; ^dInstitute for Coastal Marine Environment, National Research Council (IAMC-CNR), Torretta Granitola-Campobello di Mazara, Trapani

Microbial films may provide physical and bio-chemical cues which positively affect the settlement dynamic of a variety of benthic marine organisms, driving community succession. Biofilm maturity has been found to enhance the settlement pattern of the gastropod *Dendropoma cristatum* (Biondi, 1859), which builds up the Mediterranean intertidal vermetid reefs. However, the microbial diversity associated with these bioconstructions has never been described. This study investigates the *D. cristatum* reef bacterial assemblage composition and temporal evolution in two localities in NW Sicily. Biological diversity of the reef-associated biofilm and of 3 progressively older biofilms obtained on artificial surfaces exposed to field conditions was described by Automated Ribosomal Intergenic Spacer Analysis (ARISA). Out of 55 detected OTUs, only 6 were shared between the 2 localities. Hierarchical grouping of taxa abundance showed two major groups that separated the 2 localities. Within each group, reef-associated and experimentally obtained biofilms formed individual clades. SSU-rRNA NGS sequencing of the reef-associated biofilm is underway.

These data highlight a high variability of biofilm composition at local scale and between maturity stages. Structural differences among biofilm successional stages might be responsible for the increase of *Dendropoma cristatum* settlement, indicating a positive inter-kingdom relationship with likely implications on the reef development.

B6. Adsorption of a thermoacidophilic peroxiredoxin of *Sulfolobus solfataricus* on *Bacillus megaterium* spores

M. Lanzilli, G. A. Tipaldi, G. Donadio, F. Fusco, D. Limauro, E. Ricca, R. Isticato
Department of Biology, University of Naples Federico II, Naples, Italy

Bacterial spores displaying heterologous proteins have been proposed as a safe and efficient system to deliver antigens and enzymes to animal mucosal surfaces. Initial studies have been performed using *Bacillus subtilis* spores but then other spore formers have been considered.

B. megaterium spores have been shown able to display large amounts of a model heterologous