REPORT OF MEETING

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Organizers: **L Canesi, T Balbi, M Auguste, E Grasselli, L Vergani, I Demori, R Fabbri, M Montagna, A Voci**

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Preliminary data on a Toll-like receptor from the colonial ascidian *Botryllus schlosseri*

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Toll-like receptors (TLRs) represent a well-known family of conserved pattern recognition receptors the importance of which, in non-self recognition, was demonstrated in both vertebrates and invertebrates.

Tunicates represent the vertebrate sister group and, as invertebrates, they rely only on innate immunity for their defense. As regards TLRs, two transcripts have been described and characterized in the solitary species *Ciona intestinalis*, referred to as CiTLR1 and CiTLR2. Using the *Ciona* TLR nucleotide sequences, we examined the genome and the available transcriptomes of *Botryllus schlosseri* looking for similar sequences. We were able to identify a sequence, with similarity to CiTLR2 and, through *in silico* transduction and subsequent sequence analysis, we studied the domain content of the putative protein. The sequence, called BsTLR, has a TIR and a transmembrane domain, four LLR and two LRR-CT domains. In addition, we analized *Bstlr* expression *in vivo* and *in vitro*, under various experimental conditions and in different phases of the *Botryllus* blastogenetic cycle. Our data show that, in different phases, there is a change in gene expression and mRNA location, according to the blastogenetic phase.