

DeNovo Transcriptome Assembly and Analysis of the Flat Oyster Pathogenic Protozoa *Bonamia Ostreae*

Germain Chevignon^{1*}, Aurélie Dotto-Maurel¹, Delphine Serpin¹, Bruno Chollet¹ and Isabelle Arzul¹

¹ Ifremer, Unité Adaptation Santé des Invertébrés Marins, Avenue du Mus de Loup 17390 La Tremblade, France

germain.chevignon@ifremer.fr

The flat oyster *Ostrea edulis* is an oyster species native to Europe. It has declined to functional extinction in many areas of the North East Atlantic for several decades. Factors explaining this decline include over-exploitation of natural populations and diseases like bonamiosis, regulated across both the European Union and the wider world and caused by the intracellular protozoan parasite *Bonamia ostreae*. To date, very limited sequence data are available for this Haplosporidian species. We present here the first transcriptome of *B. ostreae*. As this protozoan is not yet culturable, it remains extremely challenging to obtain high-quality -omic data. Thanks to a specific parasite isolation protocol and a dedicated bioinformatic pipeline, we were able to obtain a high-quality transcriptome for an intracellular marine micro-eukaryote, which will be very helpful to better understand its biology and to consider the development of new relevant diagnostic tools.