

***In vitro* viral coexistence decreases Striped Jack Nervous Necrosis Virus (SJNNV) but favours Red-spotted Grouper Nervous Necrosis Virus (RGNNV) replication.**

Benjamin Lopez-Jimena¹, Maria del Carmen Alonso², Carlos Infante¹, Dolores Castro², Juan Jose Borrego², Esther Garcia-Rosado^{2,*}.

¹IFAPA Centro *El Toruño*, Junta de Andalucía, Camino de Tiro de Pichón, s/n, 11500, El Puerto de Santa María, Cádiz, Spain.

²Departamento de Microbiología, Facultad de Ciencias, Campus de Teatinos, Universidad de Málaga, 29071, Málaga, Spain.

ABSTRACT

Viral Nervous Necrosis Virus (VNNV) is the aetiological agent of the Viral Nervous Necrosis (VNN), a wide spread disease affecting different marine and freshwater fish species. The Striped Jack Nervous Necrosis Virus (SJNNV) and the Red-spotted Grouper Nervous Necrosis Virus (RGNNV) are the only genotypes of this viral group recorded in the Iberian Peninsula to date, and a high percentage of wild specimens carrying simultaneously both genotypes has been recently reported. The coexistence of two viruses may affect the course of both viral infections. In this study, several assays, including viral genome quantification by two absolute real-time PCR protocols and viral titration, have been performed to characterise the effect of the RGNNV-SJNNV coexistence (coinfection and superinfection) on the replication of each genotype on E-11 cells. The results obtained showed the partial inhibition of the SJNNV replication in presence of RGNNV, whereas the RGNNV replication got favoured in either coinfection or superinfection with SJNNV. In addition, no competence for cellular receptors between these two genotypes has been observed.

ACKNOWLEDGMENTS:

This study was supported by a research contract signed with Novartis Animal Health Inc. (Canada). B. Lopez-Jimena was supported by a fellowship from INIA (Subprograma de Formación de Personal Investigador en agroalimentación en los centros de investigación INIA-CCAA, Spanish Government). C. Infante was supported by a post-doctoral research contract from INIA-CCAA.