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**ABSTRACT BOOK**

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## ***P118 - Helix aspersa muller mucus (Helixcomplex ®) interferes with Herpes simplex 1 virus infection***

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**Introduction:** Snail mucus is a mixture of active substances commonly thought to have healthy properties for the treatment of skin disorders. Although snail mucus is an ingredient of various cosmetic and para-pharmaceutic products, the biological effects are still unknown.

**Materials and Methods:** Crude extract from *Helix aspersa muller* mucus (HelixComplex®) was obtained (Patent N: 102017000117547) and tested on *in vitro* experimental models of Herpes simplex 1 virus (HSV-1) infections (0.01 PFU/cell) on Vero cell line (ATCC-CCL81).

**Results:** In size separation experiments, we observed a peculiar protein band at 50-60 kDa. Protein band was extracted and analyzed by ESI-Q-TOF-HPLC-MS instrument: the protein band in the range of 50-60kDa was composed by a protein complex. After 2 hours from HSV-1 infection of Vero cells, the treatment with 3mg/ml of the protein complex was able to reduce 3 log the HSV-1 titre, similar to the effect obtained with acyclovir 10<sup>-5</sup> M. Interestingly, the anti-viral effect is dose-dependent and it is evident already 24 hours after HSV-1 infection. To be sure that the anti-viral effect was dependent on protein activity, we pre-incubated the protein complex at 60°C for 1 hours. This treatment abolished the anti-viral activity of the *H. aspersa* protein complex and corresponded to a denaturated protein pattern at SDS-PAGE analysis.

**Conclusions:** These results identify the *H. aspersa* snail mucus protein complex at 50-60 kDa as a suitable anti-viral compound for the treatment of HSV-1 infections, where we need to block HSV-1 spreading. Interestingly, we obtained efficacy results with a natural product that is comparable with pharmaceutical treatments as acyclovir.