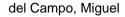
Hemocyanins as immunostimulants Hemocianinas, una herramienta inmunológica de la biomedicina actual



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Hemocyanins, the giant oxygen transporter glycoproteins of diverse mollusks, are xenogenic to the mammalian immune system and they display a remarkable immunogenicity. Therefore they are ideal non-specific immunostimulants to treat some types of cancer. They are used as an alternative therapy for superficial urinary bladder cancer (SBC), that has been traditionally treated with Bacillus Calmette-Guèrin (BCG). In contrast to BCG, hemocyanins do not cause side-effects, making them ideal for long-term repetitive treatments. Hemocyanins have also been exploited as carriers to develop antibodies against hapten molecules and peptides, as carrier-adjuvants for cutting-edge vaccines against cancer, drug addiction, and infectious diseases and in the diagnosis of parasitic diseases, such as Schistosomiasis. The hemocyanin from Megathura crenulata, also known as keyhole limpet hemocyanin (KLH), has been used for over thirty years for the purposes described above. More recently, hemocyanin from th