

Avidin Nucleic Acids Nano Assembled Systems: novel multipotent tools in biomedicine from a two-fold nature-driven self-assembly.

Abstract

The natural high affinity of the avidin protein for the nucleic acids was exploited to obtain solution stable and highly defined poly-avidin nanoassemblies with higher practical potentials as compared to monomer avidin. The talk will describe the molecular bases of the avidin-nucleic acid interaction and recent developments and biomedical applications of the nanoassemblies.

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Curriculum Vitae

Full-honour degree (1991) and Ph.D. (1995) in Pharmaceutical Sciences and at the University of Padova, Italy.

Between 1995-1997 she was a **post-doctoral fellow** at the **Weizmann Institute** of Science (Rehovot, Israel), working with Prof. Meir Wilchek on the implementation of avidin-biotin based immunoassays.

Between 1999-2000, she was a **visiting scientist at the Mount Sinai Medical Center of New York** (NY), working with prof. A.Radu to identify cell-membrane translocating peptides for **non-viral gene therapy**.

Since 2000 she is **assistant professor at the School of Pharmacy** at the University of Padova. Her present research focuses on the development of new delivery systems for biotechnological and synthetic drugs, based on organic and inorganic micro and nanoassemblies.

Since 2006 she is the scientific leader and **co-founder of ANANAS Nanotech**, a University Spin-off dedicated at developing avidin-based nanoparticles for *in vitro* diagnostics and drug delivery application. Since its foundation, the ANANAS team received several **national and international recognitions**, among which the 2006 National Innovation (PNI) Price and the 2007 International Nanochallenge award.

