

## **Abstract Relazione Boffi**

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"Engineered ferritins in cell targeted delivery"

Ferritin nanocages are becoming increasingly popular devices for diagnostic and therapeutic applications in oncology. Their unique self assembly properties and high selectivity towards tumor overexpressed CD71 (transferrin receptor) coupled to easy production as recombinant proteins and high chemical and thermal stability make ferritins an ideal scaffold for the delivery of small molecules to the desired target. The single particle cryoEM structure of the ferritin//CD71 complex has been determined very recently and highlighted the structural details of this interaction thus providing a complete frame for novel experimental design on these proteins. Most recently, the complex of humanized archaeal ferritins with pro-apoptotic cytochrome c molecule has also been obtained with unique biological effects demonstrated on leukemic cell lines.