# Separation of antibodies by affinity class using nano-immunosorbents based on $SiO_2$ nanoparticles functionalized with antigen

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**The aim** of separating antipesticide antibodies by affinity classes is to select from the polyclonal antiserum the highest affinity antipesticide antibodies. The need for the purification of specific antibodies is given both by the source from which they are isolated and by their subsequent use.

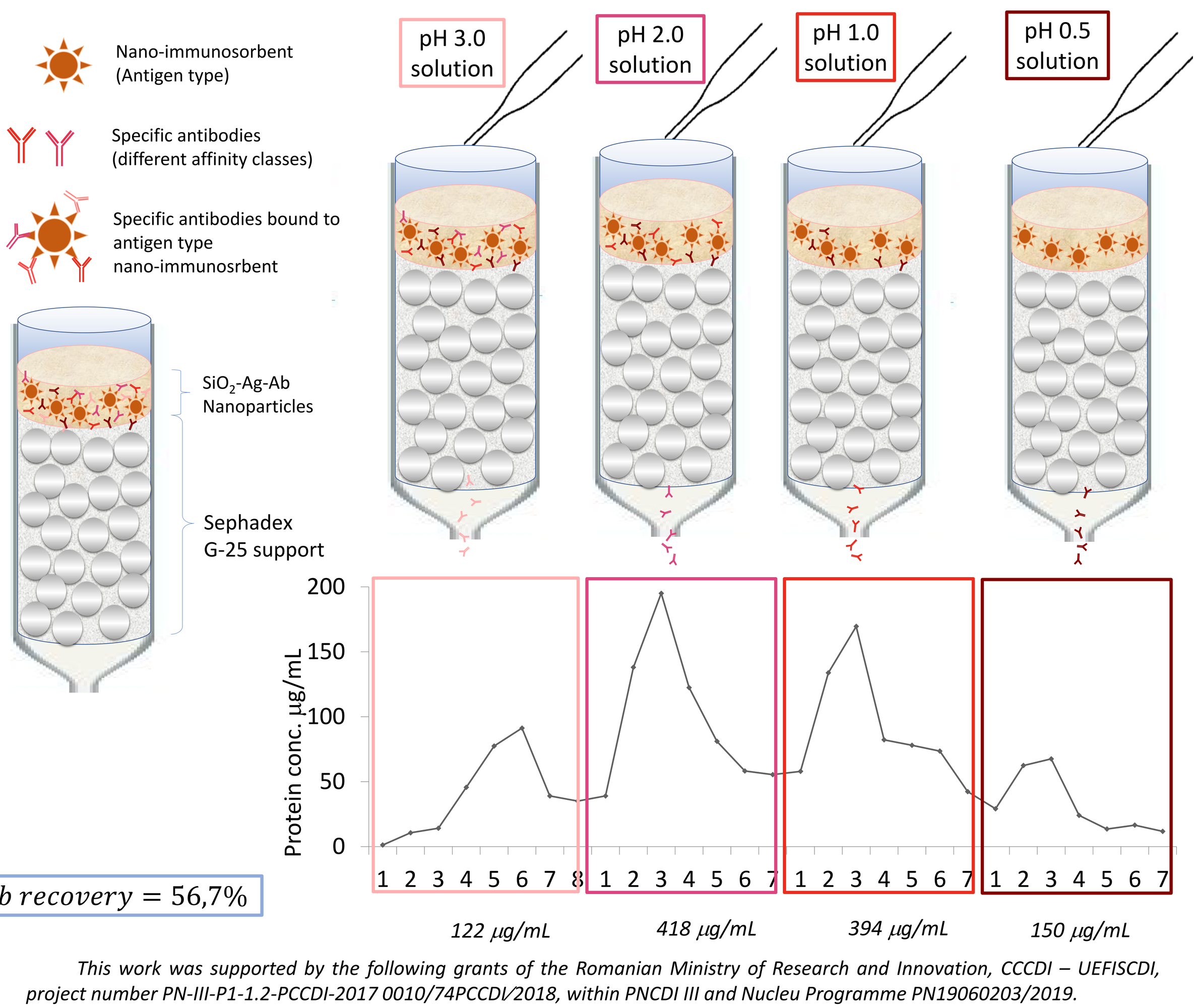
**Chromatography** is a separation method of where the components to be separated are selectively distributed between two immiscible phases.

**Affinity chromatography** separates proteins on the basis of reversible interaction between a protein (or a group of proteins) and a specific ligand coupled to a chromatography matrix.

The **functionalization of nanoparticles** with **antigens** combines the properties of the $SiO_2$ nanoparticles themselves with the **specific and selective** recognition ability of the **antibodies-antigens interactions.**

## Method

Separation by affinity classes was done by eluting solutions of different pH's over the Ag type Nano-immunosrbent. Separation of specific anti-Dicamba antibodies with high affinity constant is performed at extreme acid pH.




$$Ab\ recovery = 56{,}7\%$$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