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Qisi Liu, Kaina Zhang, Yuhao Jin, Xiangfeng Wang, Yuan Liu, Hailing Liu, Mengxia Xie*

Analytical & Testing Center of Beijing Normal University, Beijing 100875, China.

*Corresponding author, Meng-Xia XIE, Analytical & Testing Center, Beijing Normal University, Beijing 100875, People's Republic of China. Tel +86-10-58807981; Fax +86-10-58800076. Email address, xiemx@bnu.edu.cn

Abstracts

The tyrosine phosphorylation of proteins and peptides plays a vital role in cell signal transduction pathways, and it is very important to assay them for understanding their action mechanism. Due to the low levels of the tyrosine phosphopeptides (pTyr) in cells, it is a challenge to enrich them with traditional sorbents, therefore, development of specific and selective sorbents is urgent and necessary. In this work, the phosphate-imprinted magnetic nanoparticles (PMNPs) to enrich the pTyr with high efficiency and selectivity have been fabricated using the phenylphosphonic acid as a template for the "epitope" of pTyr. The magnetic nanoparticles have been functionalized with TiO_2 and then the imprinting silica shells have been coated on the surface of the functional core to obtain the PMNPs sorbents. The PMNPs can obviously shorten the enrichment time and improve the adsorption efficiency for pTyr,