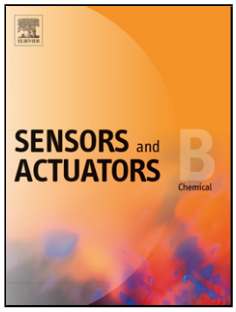

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Novel magnetic nanobeads-based fluoroimmunoassays for zearalenone detection in cereals using protein G as the recognition linker

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Highlights

• Two novel MNBs-based fluoroimmunoassays were developed for detecting zearalenone.

• Protein G was used as recognition binder to capture anti-zearalenone IgG.

• CdTe/CdS/ZnS QDs were modified as novel signal probes.

• The assays were applied in the sensitive detection of zearalenone in cereal samples.

Abstract

Zearalenone (ZEN) is a type of estrogenic mycotoxin commonly found in cereals. In order to satisfy the need for ultrasensitive detection of ZEN, we developed two novel magnetic nanobeads (MNBs)-based fluoroimmunoassays using protein G (PG) as recognition binder on the sensing interface. One proposed facile strategy is based