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نظر به اینکه مقاله ارزنده جنابعالی تحت عنوان:

A novel and more sensitive loop-mediated isothermal amplification assay targeting IS6110 for detection of Mycobacterium tuberculosis complex

در ارزشیابی پژوهش برگزیده پزشکی سال ۱۳۹۲ این فرهنگستان از سوی داوران داخلی و بین المللی، عنوان رتبه دوم علوم پایه پزشکی را دریافت کرده است، بدین وسیله، از تلاشهای علمی شما تقدیر به عمل آمده و دیپلم افتخار پژوهش برگزیده علوم پایه پزشکی به حضورتان تقدیم می شود. از درگاه ایزد منان برایتان توفیقات روزافزون در گسترش مرزهای دانش و خدمت به جمهوری اسلامی ایران آرزومندم.

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A novel and more sensitive loop-mediated isothermal amplification assay targeting IS*6110* for detection of *Mycobacterium tuberculosis* complex

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Summary

Developing improved tuberculosis (TB) diagnostics is one of the international research priorities, as TB remains globally a major health threat. Loop-mediated isothermal amplification (LAMP) is a new nucleic acid detection method that can be used in low-resource settings, because it does not require expensive or complex instruments. Using the repetitive insertion sequence IS*6110* as a target gene, we developed an efficient LAMP assay, which specifically detects members of the *Mycobacterium tuberculosis* complex (MTBC). This assay proved 20 times more sensitive than IS*6110*-based conventional PCR. Moreover, its sensitivity was, respectively, 50 and 20 times higher than the one obtained with the two previously described LAMP assays for *M. tuberculosis*, based on *gyrB* and *rrs*, respectively. Identical sensitivities were obtained for LAMP and nested PCR, but the LAMP assay was more rapid and cost-effective than the latter. Although, our LAMP assay can successfully be performed using a non-denatured template, this results in a 200-fold reduction in the sensitivity of the assay. Moreover, by performing our LAMP assay on

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