

## عنوان مقاله:

A combination analysis of the drug resistance mutations in HIV protease and Gag genes in Iranian HIV infected patients

## محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

**Introduction and Objectives:** Recently Protease inhibitors (PIs) are commonly used as a first-line regimen in HIV-1-infected patients. However, drug resistance mutations in protease gene as well as Gag gene reduce the efficiency of these inhibitors. This study aimed to investigate the drug resistance mutations in both genes in Iranian infected patients. **Material and methods:** RNA of the sera of 15 patients were extracted and then were used to amplify the protease and Gag regions by using the Nested PCR method. After sequencing, the sequences were analyzed to define drug resistance mutations. The physicochemical properties, post-modification positions, structural analysis, and subtyping were evaluated by using several reliable Bioinformatics tools. **Results:** While several mutations were found in both genes in comparison with reference sequences, we could not find any drug resistance mutations in the Gag and protease genes. The most prevalence subtype among samples was AD and several post modification positions were identified. The secondary and tertiary structures for Gag and protease genes were constructed by several bioinformatics tools. **Conclusion:** Our findings showed, in spite of numerous mutations in enrolled samples, protease inhibitors could still be effective to inhibit HIV infections in Iranian patients. In addition, this study has estimated comprehensive data of Gag and protease proteins which could be useful for further studies to introduce novel inhibitors to inhibit HIV infections.

**کلمات کلیدی:**

Gag, protease, HIV, resistance mutations

**لینک ثابت مقاله در پایگاه سیویلیکا:**

<https://civilica.com/doc/987468>

