Reassessing APOBEC3-signature mutation localization in MPXV shows no significant enrichment in predicted cruciform structures

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Abstract

Recent work proposed that APOBEC-signature mutations in monkeypox virus (MPXV) are enriched in cruciform structures formed by inverted repeats. We independently reanalyzed the same dataset with the published settings and several complementary approaches and found no statistically supported enrichment of mutations in these structures. While a modest trend at TC motif at 3' end of hairpin loop contexts cannot be excluded, current evidence is insufficient. Additional data and careful handling of overlapping structures are needed to clarify any association.

Keywords: MPOX, APOBEC, DNA secondary structure

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