

## Enzymatic activity and biotypes of *Candida* fungi isolated from the surfaces of mobile phones and hands

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### ABSTRACT

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**Introduction:** The secretion of hydrolytic enzymes is a factor facilitating pathogenic fungi invasion into the tissues.

**Purpose:** To assess hydrolytic activity and biotypes of *Candida* strains isolated from samples collected from the surfaces of mobile phones and the hands of their owners.

**Materials and methods:** The study included 175 mobile telephones and hands. The API ZYM test was used to assess enzymatic activity; biotyping was performed according to Williamson's classification.

**Results:** Among the strains isolated from hand surfaces, the highest activity was shown for *C. albicans* (acid phosphatase, esterase), *C. glabrata* (leucine arylamidase, acid phosphatase, esterase),

*C. krusei* (acid phosphatase). Of the strains isolated from phone surfaces, the highest activity was shown for *C. albicans* (leucine arylamidase, acid phosphatase), *C. glabrata* (esterase, leucine arylamidase, esterase lipase), *C. krusei* (acid phosphatase). Biotypes G, B and F were dominant for all types of fungi, both for strains isolated from phones and hand surfaces. Additionally, biotype A was dominant for *C. krusei*.

**Conclusions:** *C. albicans*, *C. glabrata*, and *C. krusei* showed activity for all hydrolytic enzymes. The strongest correlation between the hydrolytic activity of fungi isolated from hand and phone surfaces was shown for *C. albicans*.

**Keywords:** *Candida*, hands, telephone, API Zym

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