



## Diagnosis of *Cryptococcus neoformans* from the milk of goat using Multiplex PCR as diagnostic tool

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### Abstract

#### ***Cryptococcus neoformans***

(*C. neoformans*) is distributing globally. It is an opportunistic saprophytic fungal pathogen that appears as a dimorphic yeast-like fungus. It causes a wide variety of cryptococcal

diseases in immunocompromised man and animals. No previous reports have been recorded the isolation of *Cryptococcus neoformans* from the milk of the mastitic goat in Iraq. Consequently, this study intends to isolate *C. neoformans* from the milk of goats that suffered from clinical and subclinical mastitis in Iraq. Three hundred milk specimens were collected from 163 mastitic and apparently healthy goats. All milk samples were subjected to conventional isolation and characterization tests, moreover, multiplex polymerase chain reaction (mPCR) was used to confirm the diagnosis. The total positive ratio of mycotic mastitis was 41.33% for all tested samples. The total number of yeast isolates was 69 (55.64 %), meanwhile, *C. neoformans* rate was 7.24% (5 out of 69). Multiplex polymerase chain reaction confirmed 5 *C. neoformans* isolates. The results of this study revealed an agreement between the mPCR technique and conventional methods in the diagnosis of *Cryptococcus neoformans*. In conclusion, the results of this study approved the isolation of *Cryptococcus neoformans* from the milk of clinical and subclinical mastitis of goats in Iraq. The authors recommend doing a further future study that includes a large number of goats and from different locations, to investigate the actual situation of *Cryptococcus neoformans* infection in caprine in Iraq using mPCR technique.

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