\textbf{Candida auris, Strain AKU-2019-111}

\textbf{Catalog No. NR-52715}

For research use only. Not for use in humans.

\textbf{Contributor:}
Joyeria Farooqi, Professor, Department of Pathology and Laboratory Medicine, Aga Khan University, Karachi, Pakistan

\textbf{Manufacturer:}
BEI Resources

\textbf{Product Description:}
\begin{itemize}
  \item \textbf{Classification:} Mitosporic Saccharomycetales, Candida
  \item \textbf{Species:} Candida auris
  \item \textbf{Strain:} AKU-2019-111
  \item \textbf{Original Source:} Candida auris (C. auris), strain AKU-2019-111 was isolated in 2019 from the bloodstream of a human with nosocomial fungemia in Karachi, Pakistan.\textsuperscript{1}
  \item \textbf{Comment:} Strain AKU-2019-111 was deposited as resistant to fluconazole and susceptible to amphotericin and anidulafungin.\textsuperscript{1}
\end{itemize}

\textbf{C. auris} is an emerging multidrug-resistant pathogenic yeast, which causes invasive infections and outbreaks in nosocomial settings, resulting in high mortality. Since it was first described in 2009, \textit{C. auris} has been isolated in over 30 countries on 6 continents, with the earliest known isolate from 1996 discovered during a retrospective review of unidentified yeasts.\textsuperscript{2,3} \textit{C. auris} is unique among disease-causing yeasts in that it behaves more like transmissible multidrug-resistant bacteria in healthcare settings, capable of transmission between patients through shedding and requiring specific control measures.\textsuperscript{2,3} Infections primarily affect patients with underlying medical conditions or who have had recent surgery. \textit{C. auris} is capable of colonizing patients in both sterile and non-sterile sites such as skin, and is known to colonize and persist in the environment, including on healthcare surfaces and equipment, such as catheters, attributed to biofilm formation.\textsuperscript{4,5} Misidentification by commercial biochemical tests, often as closely related \textit{C. haemulonii}, delays treatment and implementation of control measures.\textsuperscript{4,5}

\textit{C. auris} has a strong phylogeographic structure comprising four distinct clades, South Asia, East Asia, South Africa and South America, separated by tens of thousands of SNPs, with smaller clusters identified in some clades.\textsuperscript{3} This high level of relatedness and low genetic diversity within clades suggests clades emerged independently and near-simultaneously in four distinct locations rather than a single spread.\textsuperscript{2,3,4}

\textbf{Material Provided:}
Each vial contains approximately 0.5 mL of yeast culture in 20\% glycerol.

\textbf{Packaging/Storage:}
NR-52715 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

\textbf{Growth Conditions:}
\begin{itemize}
  \item \textbf{Media:} Sabouraud Dextrose broth or Yeast Mold broth or equivalent Sabouraud Dextrose agar or Yeast Mold agar or equivalent
  \item \textbf{Incubation:} Temperature: 25°C to 30°C
  \item \textbf{Atmosphere:} Aerobic
\end{itemize}

\textbf{Propagation:}
1. Keep vial frozen until ready for use; thaw rapidly in a waterbath at 25°C to 30°C. Typically, this takes less than 5 minutes.
2. Immediately after thawing, inoculate an agar plate with approximately 50 µL of thawed culture and/or transfer the entire thawed aliquot into a single tube of broth.
3. Incubate the plate and/or tube at 25°C to 30°C for 2 to 4 days.

\textbf{Citation:}
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Candida auris, Strain AKU-2019-111, NR-52715.”

\textbf{Biosafety Level: 2}

\textbf{Disclaimers:}
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**References:**
1. Farooqi, J., Personal Communication.

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