

Resource Summary Report

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Environmental DNA (eDNA) 12S Metabarcoding Illumina MiSeq NGS PCR Protocol (Touchdown)

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Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.bcppivmn>

Authors: Katie Pitz, Nathan Truelove, Charles Nye, Reiko P Michisaki, Francisco Chavez

Group: MBON eDNA

Summary: The 12S protocol is aimed at amplifying the hypervariable region of the mitochondrial DNA 12S rRNA gene in eukaryotes. The primers (MiFish-U-F & MiFish-U-R) used in this protocol were developed by Miya et al., 2015 for metabarcoding environmental DNA (eDNA) from fishes. Touchdown thermocycling protocols were adapted from the CALeDNA group. This work was supported by NASA grant NNX14AP62A 'National Marine Sanctuaries as Sentinel Sites for a Demonstration Marine Biodiversity Observation Network (MBON)' funded under the National Ocean Partnership Program (NOPP RFP NOAA-NOS-IOOS-2014-2003803 in partnership between NOAA, BOEM, and NASA), and the U.S. Integrated Ocean Observing System (IOOS) Program Office. Citations 1) Miya M et al. 2015 MiFish, a set of universal PCR primers for metabarcoding environmental DNA from fishes: detection of more than 230 subtropical marine species. R.Soc.opensci. 2: 150088. <http://dx.doi.org/10.1098/rsos.1500882>) CALeDNA. 2019. University of California Conservation Genomics Consortium.

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