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BPT02-P03 Room:Poster Time:May 1 18:15-19:30

15N/14N mapping of the isotope labeling cultured foraminifera using ultra thin section

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Shallow water benthic foraminifera, *Ammonia beccarii*, survive under anoxic conditions in conjunction with possible endobionts. Based on the amino acid analysis, those endobionts are expected to utilize nitrate pool in the foraminifera. However, nitrogen cycles in the foraminiferal cell and endobionts are still unclear. Here, we obtained two dimensional-nitrogen isotopic compositions of *A. beccarii* which had been incubated under oxic and anoxic conditions with ^{15}N-labeled nitrate. After observing with transmission electron microscope to confirm cellular ultrastructure and endobiont distribution, same ultra thin section was examined for nitrogen isotopic composition analysis using secondary ion mass spectrometer. Nitrogen isotopic compositions were measured with spatial resolution better than 400 nm. ^{15}N-enriched parts were found in certain structures in the cell, but not in the endobionts in this experiment.

Keywords: Benthic foraminifera, nitrate respiration, symbiotic microbe, NanoSIMS