

## Evaluation the Effect of Environmental Factors in Foraminiferal Test Chemistry by the Precise Laboratory Experiments.

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The environment controlling culture system is managed in order to evaluate the effect on deep-sea foraminiferal test chemistry and stable isotopic compositions by pH. Chemical and isotopic compositions of foraminiferal tests have played a major role in geochemical proxy to reconstruct paleoenvironmental information. A laboratory culture experiment has great potential to evaluate these geochemical proxies, because broad conditions are reconstructive in laboratory. Recently, oceanic acidification is in progress in proportion to a rapid increase of artificial carbon dioxide (CO<sub>2</sub>) emissions. There are, however, no direct tracers of atmospheric CO<sub>2</sub> in sedimentary records. So, paleoceanographers are trying to reveal oceanic pH history, because oceanic pH should be mirror of atmospheric pCO<sub>2</sub> in geologic time scale. The seawater pH can be adjusted from 5.5 to 8.4 in this system with CO<sub>2</sub>. Lower pH will be able to maintain with injection of such acid solution as hydrochloric acid. The system could maintain the pH of 7.519 and the DO of less than 10% during a month in preliminary experiments.

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