



May 04, 2022

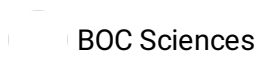
Labelled Building Blocks

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[dx.doi.org/10.17504/protocols.io.3byl4b3rovo5/v1](https://doi.org/10.17504/protocols.io.3byl4b3rovo5/v1)

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Isotope labeled building blocks refer to replacing one or more atoms in building blocks molecular with stable isotopes. Stable isotope labeled building blocks have the advantages of high sensitivity, simple location and accurate quantification. Therefore, **stable isotope labeled building blocks** are widely used in the field of life science and environment.

Application Fields

■ Application in Biochemical Field

In the field of biomedicine, stable isotope labeled building blocks could be used to overcome signal degradation during detection of molecule structures by NMR. NMR spectroscopy is an effective means to study the structure and dynamics of building blocks in solution at atomic resolution. However, building blocks analysis by NMR suffers from spectral overlap and line broadening. Isotope labeled building blocks could avoid these questions.

■ Application in Environment

Isotope labeled building blocks could be used to reveal microbially mediated carbon flow and carbon cycling processes. Isotope-labeled building blocks could indicate the types of carbon sources utilized by microorganisms and the means by which they assimilate these carbon sources, thus providing information on microbially mediated carbon flow and carbon cycling processes, and realizing the relationship between specific microbial communities and the carbon cycle they participate in.

DOI

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