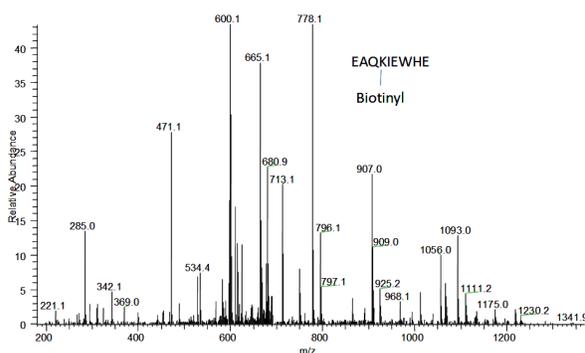


Biotin ligase BirA

Cat.# PT-EZ-BirA-100 100 ug
Cat.# PT-EZ-BirA-1000 1000 ug

Description: Biotin ligase (BirA) ligates biotin specifically to a biotin acceptor peptide (**GLNDIFEAQKIEWHE**). This product comes with reaction mixture (10X concentration: 0.5M bicine buffer, pH 8.3, 100mM ATP, 100mM MgCl₂, 500μM d-biotin)

Quality control assay: Biotin acceptor peptide tag fusion protein was used as a substrate. BirA activity was verified by streptavidin binding and mass spec analysis. A >95% bitinylation of the substrate was confirmed under the experimental conditions.



Storage conditions: Long term storage at – 80 C. Avoid repeated freeze-thaw cycles.

Purity: >80% by SDS-PAGE gel

Concentration: 0.5 mg/mL

Formulation: 20 mM MES buffer at pH5.5, 50 mM NaCl, 10% glycerol.

Reference:

1. Chen, I., Howarth, M., Lin, W., & Ting, A. Y. (2005). Site-specific labeling of cell surface proteins with biophysical probes using biotin ligase. *Nature methods*, 2(2), 99-104.

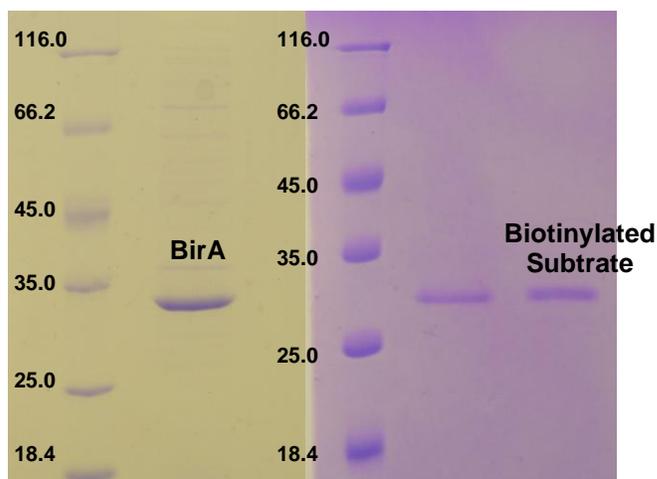


Figure 1. BirA SDS PAGE gel

Lane 1. Marker
Lane 2. BirA 1ug
Lane 3. Marker
Lane 4. Biotin acceptor substrate
Lane 5. Biotinylated substrate

Protocol for biotinylation

1. BirA reaction condition: 50mM bicine buffer, pH 8.3, 10mM ATP, 10mM MgCl₂, 50μM d-biotin.

2. Substrate concentration should be around 0.5-1mg/mL. Add 10-50 ug birA per mL reaction volume.

3. Incubate at room temperature for 1 hour or more. Longer reaction time is recommended at lower temperature.

Note:

1. Biotin/biotinylated proteins are more soluble in bicine buffer, therefore it is recommended.

2. High glycerol and NaCl concentration may lower birA activity