# Recombinant Bifunctional ligase/repressor BirA, His

Catalog No: #AP60432

Package Size: #AP60432-1 5ug #AP60432-2 100ug #AP60432-3 500ug

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## Description

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| Product Name | Recombinant Bifunctional ligase/repressor BirA, His |
| Host Species | Escherichia coli |
| Purification | > 95 % by SDS-PAGE analyses. |
| Calculated MW | Approximately 36.4 kDa, a single non-glycosylated polypeptide chain containing 329 amino acids, with 6 x His at the C-terminus. |
| Target Sequence | MKDNTVPLKL IALLANGEFH SGEQLGETLG MSRAAINKHI QTLRDWGVDV FTVPGKGYSL PEPIQLLNAK QILGQLDGGS VAVLPVIDST NQYLLDRIGE LKSGDACIAE YQQAGRGRRG RKWFSPFGAN LYLSMFWRLE QGPAAAIGLS LVIGIVMAEV LRKLGADKVR VKWPNDLYLQ DRKLAGILVE LTGKTGDAAQ IVIGAGINMA MRRVEESVVN QGWITLQEAG INLDRNTLAA MLIRELRAAL ELFEQEGLAP YLSRWEKLDN FINRPVKLII GDKEIFGISR GIDKQGALLL EQDGIIKPWM GGEISLRSAE KLEHHHHHH |
| Formulation | Supplied as a 0.2 μm filtered solution in 50 mM Tris-HCl, pH 8.0, 150 mM NaCl, 1 mM EDTA, 1 mM DTT, 10 % glycerol. |
| Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles.- 6 months from date of receipt, -20 to -70 °C as supplied.- 3 months, -20 to -70 °C under sterile conditions after opening. |

## Background

BirA, the biotin-protein ligase (BPL) of Escherichia coli, is also known as biotin operon repressor, biotin-[acetyl-CoA-carboxylase] ligase, and biotin-[acetyl-CoAcarboxylase] synthetase. BirA, a member of the group II biotin-protein ligase family, contains an N-terminal helix-turn-helix DNA-binding domain, a catalytic core that catalyzes biotinyl 5' adenylate (bio-5'-AMP) synthesis, and a C-terminal domain that plays a role in DNA binding, dimerization, and catalytic function. BirA functions both as a DNA-binding protein that represses the biotin biosynthesis operon as well as an enzyme that synthesizes its own corepressor, bio-5'-AMP, an intermediate in biotinylation reactions. BirA biotinylates via the lysine side chain of biotin-accepting proteins/peptides, including natural substrate, carboxyl carrier protein (BCCP),and Avi Tag fusion proteins. Once biotinylated, (strept)avidin-biotin interactions can be utilized in a wide variety of applications of biochemistry and cell biology, including protein capture, immobilization, multimerizing, and bridging molecules.

Note: This product is for in vitro research use only