

AntiBirA [5B11c3-3]

Catalogue number: 153487

Sub-type: Primary antibody

Images:

Contributor

Inventor: Brian Burke

Institute: A*STAR Accelerate Technologies Pte Ltd

Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: AntiBirA [5B11c3-3]

Alternate name: BirA antibody, bioR antibody, dhbB antibody, JW3941 antibody, BirA miniTurbo antibody, BirA/miniTurbo

Class: Monoclonal

Conjugate: Unconjugated

Description: Monoclonal antibody which specifically detects BirA in E.coli samples. Background and Research Application E.coli BirA is a well-characterized multiFn protein that either catalyses the transfer of biotin to biotin carboxyl carrier protein (BCCP), an acetyl-CoA carboxylase subunit or, alternatively, binds to the biotin operator resulting in transcriptional repression of the biotin operon. This protein also activates biotin to form biotinyl-5'-adenylate and transfers the biotin moiety to biotin-accepting proteins. A mutant BirA (R118G) shows loss of DNA binding ability and promiscuity of substrate biotinylation. These properties of BirA R118G were used to develop an in vivo proximity labelling technique that identifies potential interacting proteins (BioID). In the BioID method, a protein of interest is tagged with BirA R118G and expressed in live cells. Addition of the biotin to the culture medium results in biotinylation of proteins in vicinity of the bait. The biotinylated proteins can then be affinity purified with biotin binding proteins such as streptavidin or avidin even under harsh denaturing conditions and subsequently identified by mass spectrometry or immunoblot analysis. One of the drawbacks of the BirA/BioID is its slow biotinylation kinetics making it unsuitable for the study of dynamic processes. To overcome the hurdle directed evolution of BirA R118G was used to generate two BirA variants with superior enzymatic activity: (i) 35 kD TurboID, with 15 mutations relative to wild-type BirA; and 28 kD miniTurbo, with N-terminal domain deleted and 13 mutations relative to the original BirA. This antibody specifically detects BirA in E. coli samples.

Purpose: Marker

Parental cell:

Organism:

Tissue:

Model:

Gender:

Isotype: IgG1 kappa

Reactivity: E.coli

Selectivity:

Host: Mouse

Immunogen: Glutathione-S-transferase (GST) fused to E.coli BirA R118G

Immunogen UNIPROT ID: P06709

Sequence:

Growth properties:

Production details:

Formulation:

Recommended controls: Cells overexpressing an E.coli BirA/miniTurbo construct

Bacterial resistance:

Selectable markers:

Additional notes:

Target details

Target: BirA R118G

Target alternate names:

Target background: Monoclonal antibody which specifically detects BirA in E.coli samples.

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Molecular weight: 35 kDa

Ic50:

Applications

Application: IF ; WB

Application notes:

Handling

Format: Liquid

Concentration: 1 mg/ml

Passage number:

Growth medium:

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer: PBS with 0.02% azide

Storage conditions: Store at -20° C frozen. Avoid repeated freeze / thaw cycles

Shipping conditions: Shipping at 4° C

Related tools

Related tools:

References

References:

CancerTools.org