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Product Information

Anti-eIF2Bβ (N-terminal)
produced in rabbit, affinity isolated antibody

Product Number: **E6282**

Product Description

Anti-eIF2Bβ (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at N-terminal of human eIF2Bβ (GeneID: 8892), conjugated to KLH. The corresponding sequence is identical in rat, and differs by one amino acid in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-eIF2Bβ (N-terminal) specifically recognizes human, mouse, and rat eIF2Bβ. The antibody may be used in several immunochemical techniques including immunoblotting (~39 kDa), immunoprecipitation, and immunofluorescence. Staining of the eIF2Bβ band in immunoblotting is specifically inhibited with the immunizing peptide.

Eukaryotic initiation factor eIF2B mediates the recycling of the eIF2 protein, which binds the initiator Met-tRNA (Met-tRNA$_i$) to the 40S ribosomal subunit and is required for every initiation event. eIF2B converts its substrate, eIF2, from an inactive eIF2·GDP complex to eIF2·GTP. The rate at which GDP is released from eIF2 is very slow and eIF2B is required to accelerate the regeneration of active eIF2•GTP. This exchange process is a key regulatory step for the control of translation initiation in eukaryotic organisms. eIF2B is composed of five subunits termed α–ε in order of increasing size.[1] The eIF2Bα, –β, and -δ subunits form the "regulatory" subcomplex that downregulates eIF2B activity in response to the phosphorylation of eIF2 on Ser^{51}.[2] The eIF2Bγ and eIF2Bε subunits form the "catalytic" subcomplex that is required for accelerating the rate of guanine nucleotide exchange. Multiple phosphorylation sites in the largest catalytic ε subunit of mammalian eIF2B have so far been identified in mammals[3] and shown to be required for binding to eIF2 and for full activity of eIF2Bε. The exact role of each of the other four subunits is still less defined. Studies have linked inherited mutations in any of the five eIF2B subunits to a fatal human disorder known as childhood ataxia with central nervous system hypomyelination (CACH) or vanishing white matter (VWN) disease.[4]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2–4 μg/mL is recommended using K562 or AT3B1 cell lysates.

Immunoprecipitation: a working amount of 3.5–10 μg is recommended using K562 cell lysates.

Indirect immunofluorescence: a working concentration of 2-5 μg/mL is recommended using paraformaldehyde-fixed NIH-3T3 cells overexpressing human eIF2Bβ.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Pain, V.M., *J. Biochem.,* **236**, 747-771 (1996).
2. Pavitt, G.D. et al., *Biochem. Soc. Trans.,* **33**, 1487-1492 (2005).
3. Wang, X. et al., *EMBO J.*, **20**, 4349-4359 (2001).
4. Leegwater, P.A. et al., *Nature Genet.*, **29**, 383-388 (2001).

VS,SG,KAA,PHC,MAM 01/19-1