

ABAT (B-5): sc-393142

BACKGROUND

In the central nervous system GABA (γ -aminobutyric acid) functions as the main inhibitory transmitter by increasing a Cl^- conductance that inhibits neuronal firing. ABAT (4-aminobutyrate aminotransferase), also known as GABAT (GABA aminotransferase), L-AIBAT or (S)-3-amino-2-methylpropionate transaminase, is a 500 amino acid mitochondrial matrix protein belonging to the class-III pyridoxal-phosphate-dependent aminotransferase family, which catabolizes GABA into succinic semialdehyde. Existing as a homodimer, ABAT binds pyridoxal phosphate as a cofactor and is expressed in liver, brain, pancreas, kidney, placenta and heart. The gene encoding ABAT maps to human chromosome 16p13.2, and defects in ABAT are the cause of GABA-AT deficiency, which is characterized by hypotonia, hyperreflexia, psychomotor retardation, lethargy, EEG abnormalities and refractory seizures.

REFERENCES

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- Bhattacharyya, S.P., Saha, N. and Wee, K.P. 1985. γ -aminobutyric acid transaminase (GABAT) polymorphism among ethnic groups in Singapore—with report of a new allele. *Am. J. Hum. Genet.* 37: 358-361.
- Osei, Y.D. and Churchich, J.E. 1995. Screening and sequence determination of a cDNA encoding the human brain 4-aminobutyrate aminotransferase. *Gene* 155: 185-187.
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CHROMOSOMAL LOCATION

Genetic locus: ABAT (human) mapping to 16p13.2; Abat (mouse) mapping to 16 A1.

SOURCE

ABAT (B-5) is a mouse monoclonal antibody raised against amino acids 59-219 mapping near the N-terminus of ABAT of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ABAT (B-5) is recommended for detection of ABAT of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ABAT siRNA (h): sc-93288, ABAT siRNA (m): sc-140745, ABAT shRNA Plasmid (h): sc-93288-SH, ABAT shRNA Plasmid (m): sc-140745-SH, ABAT shRNA (h) Lentiviral Particles: sc-93288-V and ABAT shRNA (m) Lentiviral Particles: sc-140745-V.

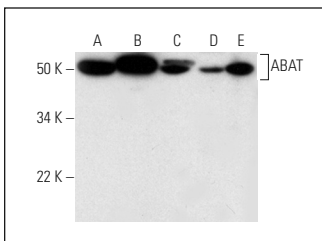
Molecular Weight of ABAT: 56 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, KNRK whole cell lysate: sc-2214 or IMR-32 cell lysate: sc-2409.

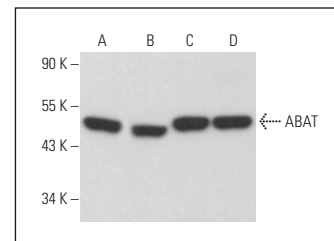
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ABAT (B-5): sc-393142. Western blot analysis of ABAT expression in Hep G2 (A), KNRK (B) and IMR-32 (C) whole cell lysates and mouse brain (D) and human hippocampus (E) tissue extracts.



ABAT (B-5): sc-393142. Western blot analysis of ABAT expression in Hep G2 (A) and c4 (B) whole cell lysates and rat brain (C) and rat liver (D) tissue extracts.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.