

Product datasheet

Anti-GSK3 (alpha + beta) (phospho Y216 + Y279) antibody ab4797

★★★★☆ [4 Abreviews](#) [9 References](#) [1 Image](#)

Overview

Product name	Anti-GSK3 (alpha + beta) (phospho Y216 + Y279) antibody
Description	Rabbit polyclonal to GSK3 (alpha + beta) (phospho Y216 + Y279)
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Mouse
Immunogen	Synthetic peptide corresponding to GSK3 (alpha + beta) (phospho Y216 + Y279). The sequence is conserved in rat and zebrafish GSK-3a and mouse, rat, frog and zebrafish GSK-3b.

General notes

Glycogen synthase kinase-3 (GSK 3) is a proline-directed serine-threonine kinase that was initially identified as a phosphorylating and inactivating glycogen synthase. Two isoforms, alpha (GSK 3A) and beta, show a high degree of amino acid homology. GSK 3B is involved in energy metabolism, neuronal cell development, and body pattern formation.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.3 Constituent: PBS
Purity	Immunogen affinity purified
Purification notes	Purified from rabbit serum by epitope specific affinity chromatography. Any reactivity towards the

non-tyrosine phosphorylated GSK 3 alpha + beta protein has been eliminated through a series of preabsorption steps.

Primary antibody notes

Glycogen synthase kinase-3 (GSK 3) is a proline-directed serine-threonine kinase that was initially identified as a phosphorylating and inactivating glycogen synthase. Two isoforms, alpha (GSK 3A) and beta, show a high degree of amino acid homology. GSK 3B is involved in energy metabolism, neuronal cell development, and body pattern formation.

Clonality

Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab4797 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★ (4)	Use a concentration of 0.5 - 1 µg/ml. Predicted molecular weight: 51,47 kDa. Use at a concentration of 0.5 - 1.0 µg/ml. Predicted molecular weight: 51kDa for GSK 3 alpha and 47 kDa for GSK 3 beta.

Target

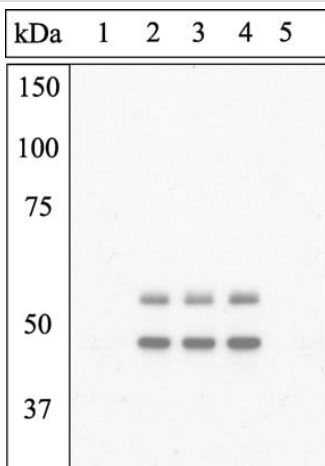
Relevance

Glycogen synthase kinase 3 (GSK3) is a proline directed serine threonine kinase that was initially identified as a phosphorylating and inactivating glycogen synthase, a key enzyme in glycogen metabolism. Since then, it has been shown to be involved in the regulation of a diverse array of cellular functions, including protein synthesis, cell proliferation, cell differentiation, microtubule assembly/disassembly, and apoptosis. GSK3s substrate specificity is unique in that phosphorylation of substrate only occurs if a phosphoserine or phosphotyrosine is present four residues C terminal to the site of GSK phosphorylation. There exists two isoforms of GSK3, alpha and beta, and they show a high degree of amino acid homology. The two isoforms of GSK3 are strictly regulated via phosphorylation. Phosphorylation of GSK3 beta on Ser9 (Ser21 in GSK3 alpha) by protein kinase B (PKB) causes its inactivation is the primary mechanism responsible for growth factor inhibition of this kinase. Activation of GSK3 beta is dependent upon the phosphorylation of Tyr216 (Tyr279 in GSK3 alpha). Upon activation, it has been shown to phosphorylate a number of different cellular proteins, including p53, c-Myc, c-Jun, heat shock factor 1 (HSF1), and cyclin D1. GSK3 beta also has been shown to phosphorylate aberrant sites on the microtubule associated protein tau, which is critical for the progression of Alzheimer's disease. GSK3B is involved in energy metabolism, neuronal cell development, and body pattern formation.

Cellular localization

Cytoplasmic and Nuclear

Images



Western blot - Anti-GSK3 (alpha + beta) (phospho Y216 + Y279) antibody (ab4797)

Extracts of 3T3L1 cells stimulated with 100 nM insulin for 10 minutes were resolved by SDS-PAGE on a 10% Tris-glycine gel and transferred to PVDF. The membrane was blocked with a 5% BSA-TBST buffer for one hour at room temperature and either left untreated (1-4) or treated with lambda (λ) phosphatase (5), then incubated with the GSK-3 α [pY279] / β [pY216] antibody for two hours at room temperature in a 1% BSATBST buffer, following its prior incubation with: the phosphopeptide immunogen (1), no peptide (2), the non-phosphopeptide corresponding to the phosphopeptide immunogen (3), or a generic phosphotyrosine-containing peptide (4). After washing, the membrane was incubated with goat F(ab')₂ anti-rabbit IgG HRP conjugate, and signals were detected. The data show that only the phosphopeptide corresponding to GSK-3 α [pY279] / β [pY216] blocks the antibody signal, demonstrating the specificity of the antibody. The data also show that phosphatase stripping eliminates the signal, further verifying that the antibody is phospho-specific.

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