

# PRODUCT INFORMATION



## GSK3 $\beta$ (Phospho-Ser<sup>9</sup>) Polyclonal Antibody

Item No. 10009374

### Overview and Properties

<b>Contents:</b>	This vial contains 100 $\mu$ l of peptide affinity-purified antibody.
<b>Synonyms:</b>	Glycogen Synthase Kinase 3 $\beta$ , GSK3B, Serine/threonine-protein Kinase GSK3B
<b>Immunogen:</b>	Phosphopeptide corresponding to rat GSK3 $\beta$ (phospho-Ser <sup>9</sup> )
<b>Molecular Weight:</b>	~46 kDa
<b>Cross Reactivity:</b>	(+) GSK3 $\beta$
<b>Species Reactivity:</b>	(+) Mouse, rat
<b>Uniprot No.:</b>	P18266
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	$\geq$ 1 year
<b>Storage Buffer:</b>	10 mM HEPES, pH 7.5, with 150 mM sodium chloride, 100 $\mu$ g/ml BSA, and 50% glycerol
<b>Host:</b>	Rabbit
<b>Applications:</b>	Western blot (WB); the recommended starting dilution for WB is 1:1,000. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

### Description

Glycogen synthase kinase 3 $\beta$  (GSK3 $\beta$ ) is a serine/threonine protein kinase that has roles in numerous signaling pathways and cellular processes, including cell proliferation and survival, as well as neural development and plasticity.<sup>1,2</sup> It is composed of an N-terminal  $\beta$ -strand domain, a kinase domain, and a C-terminal  $\alpha$ -helical domain.<sup>3</sup> GSK3 $\beta$  is constitutively active, ubiquitously expressed, and localizes predominantly to the cytosol but is also found in the nucleus and mitochondria.<sup>2,4</sup> It is inhibited by phosphorylation at serine 9 (Ser<sup>9</sup>), which is mediated by a variety of kinases, including PKA, PKB, and Akt, and has roles in insulin, growth factor, and Wnt signaling pathways.<sup>2</sup> GSK3 $\beta$  is involved in several pathophysiological conditions, such as diabetes, cancer, inflammation, and neurological or psychiatric disorders, including Alzheimer's disease, Parkinson's disease, and bipolar disorder.<sup>1,4</sup> Levels of GSK3 $\beta$  (phospho-Ser<sup>9</sup>) are decreased in the hippocampus and prefrontal cortex in a rat model of memory impairment and are rescued by lithium.<sup>6</sup> The overexpression of GSK3 $\beta$  with low levels of Ser<sup>9</sup> phosphorylation is associated with a poor prognosis in patients with pancreatic ductal carcinoma (PDAC).<sup>7</sup> However, GSK3 $\beta$  (phospho-Ser<sup>9</sup>) levels are increased in cisplatin-resistant ovarian cancer cells *in vitro* and in skin cancer tissues from patients with squamous cell carcinoma.<sup>5</sup> Cayman's GSK3 $\beta$  (Phospho-Ser<sup>9</sup>) Polyclonal Antibody can be used for Western blot (WB) applications. The antibody recognizes GSK3 $\beta$  (phospho-Ser<sup>9</sup>) at ~46 kDa from rat and mouse samples.

### References

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2. Krishnankutty, A., Kimura, T., Saito, T., et al. *Sci. Rep.* **7(1)**, 8602 (2017).
3. ter Haar, E., Coll, J.T., Austen, D.A., et al. *Nat. Struct. Biol.* **8(7)**, 593-596 (2001).
4. Beurel, E., Grieco, S.F., and Jope, R.S. *Pharmacol. Ther.* **148**, 114-131 (2015).
5. Luo, J. *Cancer Lett.* **273**, 194-200 (2009).
6. Ponce-Lopez, T., Liy-Salmeron, G., Hong, E., et al. *Brain Res.* **1426**, 73-85 (2011).
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WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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