

### Certificate of Analysis

**Product:** Affinity Purified Anti-GSK3 (alpha) [Rabbit]

**Code:** 600-401-444

**Lot #:** 13063

**Size:** 100 µg

**Physical State:** Liquid (sterile filtered)

**Antibody Concentration:** 1.0 mg/ml (by UV absorbance at 280 nm)

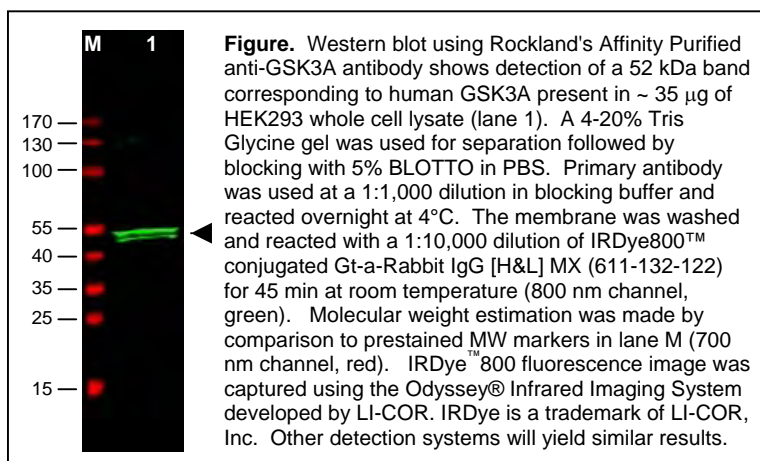
**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

**Stabilizer:** None

**Preservative:** 0.01% (w/v) Sodium Azide

**Storage Conditions:** Store vial at -20° C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

**Background:** Glycogen synthase kinase 3 alpha (GSK3A) belongs to the ser/thr family of protein kinases, Cdc2/cdkx subfamily; gsk-3 subsubfamily. It is implicated in the hormonal control of several regulatory proteins including glycogen synthase, myb, and the transcription factor c-jun. GSK3A is a proline-directed serine-threonine kinase that was initially identified as a phosphorylating and inactivating glycogen synthase. Two isoforms, alpha (GSK3A) and beta (GSK3B), show a high degree of amino acid homology. GSK3B is involved in energy metabolism, neuronal cell development, and body pattern formation.



**Application Note(s):** This affinity-purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 52 kDa in size corresponding to GSK3A by western blotting in the appropriate cell lysate or extract.

<b>Recommended Dilutions:</b>	<b>ELISA</b>	1:4,000 - 1:16,000
	<b>WESTERN BLOT</b>	1:500 - 1:3,000
	<b>IF MICROSCOPY</b>	User Optimized
	<b>OTHER APPLICATIONS</b>	User Optimized

**Purity and Specificity:** This affinity-purified antibody is directed against human GSK3A. The product was affinity purified from monospecific antiserum by immunoaffinity purification. This antibody will react with both the phosphorylated and non-phosphorylated form of the protein at the S21 residue. A BLAST analysis was used to suggest reactivity with this protein from human, chimpanzee and rat based on 100% homology for the immunogen sequence. Cross reactivity with GSK3A homologues from other sources has not been determined. No cross reactivity is expected against GSK3B.

**Relevant Link(s):** Swiss Prot: [P49840](https://www.uniprot.org/uniprot/P49840)

NCBI Link [NP\\_063937](https://www.ncbi.nlm.nih.gov/nuccore/NP_063937)

**Protein Sequence:** Human GSK3 alpha, 483 aa, predicted MW 51.0 kDa

1	msgggpsggg	pggsgrarts	sfaepggggg	gggggpggsa	sgpggtgggk	asvgamgggv
61	gasssgggpg	gsgggsggpp	gagtsfpppg	vkigrdsgkv	ttvvtlqgg	persqevayt
121	dikvigngsf	gvvyqarlae	trelvaikkv	lqdkrfknre	lqimrkldhc	nivrlryffy
181	ssgekkdely	lnlvleyvpe	tvyrvarhft	kakltipily	vkvymyqlfr	slayihsqgv
241	chrdikpqnI	lvdpdtavlk	lcdfgsakql	vrgepnvysi	csryrapel	ifgatdytss
301	idvwsagcvi	aelllqqpif	pgdsgvdqlv	eiikvlgtpt	requiremnpn	ytefkfpqik
361	ahpwtkvfks	rtppeaialc	sslleytpss	rlspleacah	sffdelrcig	tqlpnnrplp
421	plfnfsagel	siqpslnail	iphhrspag	ttltspssqa	ltetpssdw	qstdatpilt
481	nss					

**Immunogen:** This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding aa 16-25 of human GSK3 alpha.

**General References:**

Gaster, M., et al. (2004) The primary defect in glycogen synthase activity is not based on increased glycogen synthase kinase-3alpha activity in diabetic myotubes. *Biochem. Biophys. Res. Commun.* **319** (4), 1235-1240.

Barry, F.A., Graham, G.J., Fry, M.J. and Gibbins, J.M. (2003) Regulation of glycogen synthase kinase 3 in human platelets: a possible role in platelet function?. *FEBS Lett.* **553** (1-2), 173-178.

Nikoulina, S.E., Ciaraldi, T.P., Mudaliar, S., Carter, L., Johnson, K. and Henry, R.R. (2002) Inhibition of glycogen synthase kinase 3 improves insulin action and glucose metabolism in human skeletal muscle. *Diabetes* **51** (7), 2190-2198.

He, X., Saint-Jeannet, J.P., Woodgett, J.R., Varmus, H.E. and Dawid, I.B. (1995) Glycogen synthase kinase-3 and dorsoventral patterning in *Xenopus* embryos. *Nature* **374** (6523), 617-622.

**Related Products:**

#600-401-429	Affinity Purified Anti-GSK3 alpha pS21 (Rabbit)	
#600-401-444	Affinity Purified Anti-GSK3 alpha (Rabbit)	
#611-703-127	Peroxidase Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (DONKEY) MX10	
#611-132-122	IRDye800 Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (GOAT) MX10	
#B501-0500	500 g	BLOTTO
#BSA-30	500 ml	30% BOVINE SERUM ALBUMIN SOL'N in 0.85% sodium chloride (no preservative or stabilizer)
#B304	10 ml	NORMAL GOAT SERUM (NGS)
#KIA-003	<b>MaxTag™</b> Anti-RABBIT IgG Kit for Immunoblotting	
#MB-070	Blocking Buffer for Fluorescent Western Blotting	

**USDA Certification:** All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.