

### Certificate of Analysis

**Product:** Affinity Purified Anti-Human ESET [Rabbit]

**Code:** 600-401-689

**Lot #:** 15696

**Size:** 100 µg

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

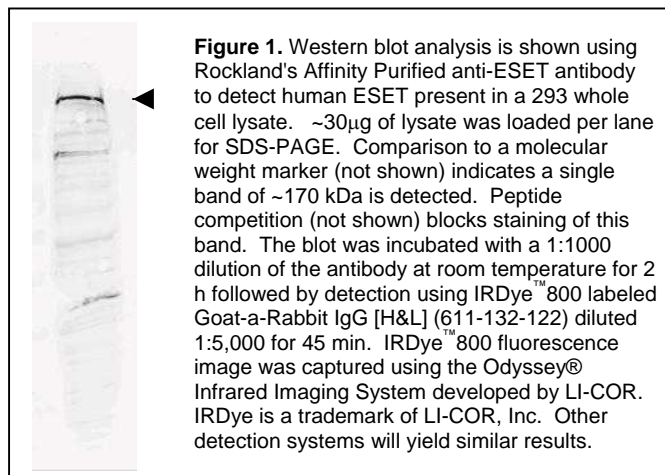
**Antibody Concentration:** 1.17 mg/ml (by UV absorbance at 280 nm)

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

**Stabilizer:** None

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

**Background Information:** The SET domain is a highly conserved, approximately 150-amino acid motif implicated in the modulation of chromatin structure. It was originally identified as part of a larger conserved region present in the *Drosophila* trithorax protein and was subsequently identified in the *Drosophila* Su(var)3-9 and 'Enhancer of zeste' proteins, from which the acronym SET is derived. Studies have suggested that the SET domain may be a signature of proteins that modulate transcriptionally active or repressed chromatin states through chromatin remodeling activities. ESET functions as a histone methyltransferase by methylation of Lys-9 of histone H3. H3 Lys-9 methylation represents a specific tag for epigenetic transcriptional repression by recruiting HP1 proteins to methylated histones. ESET shows a nuclear localization and is associated with non-pericentromeric regions of chromatin, and is excluded from nucleoli and islands of condensed chromatin. Although ESET is a widely expressed protein, it is highly expressed in the testis.



**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.

<b>Recommended Dilutions:</b>	<b>ELISA</b>	1:10,000 - 1:50,000
	<b>WESTERN BLOT</b>	1:1,000 - 1:2,500
	<b>IMMUNOHISTOCHEMISTRY</b>	User Optimized
	<b>OTHER APPLICATIONS</b>	User Optimized

**Application Note(s):** This affinity purified antibody has been tested for use in ELISA and western blotting. Western blotting shows reactivity specific for human ESET detecting a band at approximately 170 kDa. Specific band detection by western blot is blocked by peptide competition by pre-incubating the antibody with the immunizing peptide prior to reaction with the membrane. Reactivity in other immunoassays is unknown.

**Purity and Specificity:** This is an affinity purified antibody produced by immunoaffinity chromatography using the immunizing peptide after immobilization to a solid phase. Reactivity occurs against human ESET protein. Cross reactivity with ESET protein from non-human sources is not expected based on a lack of homology (BLAST) with other known proteins.

**Immunogen:** This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids 1058-1075 of human ESET.

**Protein Sequence:** Human ESET, 1291 aa, predicted MW 143.2 kDa

1	msslpgcigl	daatatvese	eiaelqavv	eelgismeel	rhfideelek	mdcvqqrkkq
61	laeletwviq	kesevahvdq	lfddasravt	nceslvkdfy	sklglqyrds	ssedessrpt
121	eiieipdedd	dvlisidsgda	gsrtpkdqkl	reamaalrks	aqdvqkmda	vnkksssqdl
181	hkgtlsqmsg	elskdgdli	smrilgkkr	ktwhkgtlia	iqtvpggkky	kvkfdnkgks
241	llsgnhiayd	yhppadklyv	gsrvvakykd	gnqvwyagi	vaetpnvknk	lrflifddg
301	yasyvtqsel	ypicrplkkt	wediediscr	dfieeytay	pnrpmvllks	gqlikteweg
361	twwksrveev	dgsivrifll	ddkrcewiyr	gstrelpmfs	mktssasale	kkqgqlrtrp
421	nmgavrskgp	vvqytdltg	tgtqfkpvep	pqptappapp	fppappfspq	agdsdlesql
481	aqsrkqvakk	stsrpagsvg	sghssptspa	lsenvsggkp	ginqtyrspl	gstasapaps
541	alpappappv	fhgmlerapa	epsyrapmek	lfylphvcy	tclsrvrpmr	neqyrknpl
601	lvplydfrr	mtarrvrnk	mgfhviyktp	cglclrtmqe	ierylfetgc	dfllfemfcl
661	dpyvlvdrkf	qpykpfyil	ditygkedvp	lscvneidtt	pppqvayske	ripgkgvfin
721	tgpeflvgcd	ckdgcdrksk	cachqitqia	tactpggqin	pnsqyqykr	eeclptgyve
781	cnkrckcdpn	mctnrivqhg	lqvrllfkt	qnkgwgircl	ddiakgsfvc	iyagkiltdd
841	fadkeglemg	deyfanldhi	esvenfkegy	esdapcssds	sgvldkdqed	gnsngtedpee
901	snddssddf	ckdedfstss	vwrsyatrrq	trgqkengls	ettskdspp	dlgpphipvp
961	psipvggcnp	psseetpknk	vaswlsncsv	seggfadsds	hssfktnegg	egragsrme
1021	aekastsglg	ikdegdikqa	kkedtdrnk	msvvtessrn	<b>ygynpsvpkp</b>	<b>eglrrpskt</b>
1081	smhqsrllma	saqsnpddvl	tlsssteseg	esgtsrkpta	gqtsatavds	ddiqtissgs
1141	egddfedkkn	mtgpmkrqva	vkstrgfalk	sthgjaikst	nmasvdkges	apvrkntrqf
1201	ydgeescyii	daklegnlgr	ylnhscspnl	fvqnvfdth	dlrfpwaff	askrragte
1261	ltwdynyevg	svegkellcc	cgaiecrgrl	l		

**Relevant Link(s):** NCBI Locus [NP\\_036564](#)

Swis-Prot [Q15047](#)

### Specific References:

Schultz D.C., Ayyanathan K., Negorev D., Maul G.G., Rauscher F.J. III, (2002) SETDB1: a novel KAP-1-associated histone H3, lysine 9-specific methyltransferase that contributes to HP1-mediated silencing of euchromatic genes by KRAB zinc-finger proteins. [Genes Dev. 16:919-932\(2002\)](#).

Sarraf,S.A. and Stancheva,I. (2004) Methyl-CpG binding protein MBD1 couples histone H3 methylation at lysine 9 by SETDB1 to DNA replication and chromatin assembly. *Mol. Cell* **15** (4), 595-605.

Wang,H., An,W., Cao,R., Xia,L., Erdjument-Bromage,H., Chatton,B., Tempst,P., Roeder,R.G. and Zhang,Y. (2003) mAM facilitates conversion by ESET of dimethyl to trimethyl lysine 9 of histone H3 to cause transcriptional repression. *Mol. Cell* **12** (2), 475-487.

Harte,P.J., Wu,W., Carrasquillo,M.M. and Matera,A.G. (1999) Assignment of a novel bifurcated SET domain gene, SETDB1, to human chromosome band 1q21 by in situ hybridization and radiation hybrids. *Cytogenet. Cell Genet.* **84** (1-2), 83-86.

### Related Products:

#W09-000-365	293 Whole Cell Lysate in SDS-PAGE Sample Buffer
#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
#MB-070	Blocking Buffer for Fluorescent Western Blotting
#KIA-003	<b>MaxTag</b> <sup>TM</sup> Anti-RABBIT IgG Kit for Immunoblotting

**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.