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SECISBP2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14908c

Product Information

Application	WB, E
Primary Accession	Q96T21
Other Accession	Q9QX72, NP_076982.3
Reactivity	Human
Predicted	Rat, Mouse, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35329
Calculated MW	95462
Antigen Region	501-530

Additional Information

Gene ID	79048
Other Names	Selenocysteine insertion sequence-binding protein 2, SECIS-binding protein 2, SECISBP2, SBP2
Target/Specificity	This SECISBP2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 501-530 amino acids from the Central region of human SECISBP2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SECISBP2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SECISBP2 {ECO:0000303|PubMed:19004874, ECO:0000312|HGNC:HGNC:30972}
Function	mRNA-binding protein that binds to the SECIS (selenocysteine insertion

sequence) element present in the 3'-UTR of mRNAs encoding selenoproteins and facilitates the incorporation of the rare amino acid selenocysteine (PubMed:35709277). Insertion of selenocysteine at UGA codons is mediated by SECISBP2 and EEFSEC: SECISBP2 (1) specifically binds the SECIS sequence once the 80S ribosome encounters an in-frame UGA codon and (2) contacts the RPS27A/eS31 of the 40S ribosome before ribosome stalling (PubMed:35709277). (3) GTP-bound EEFSEC then delivers selenocysteinyl-tRNA(Sec) to the 80S ribosome and adopts a preaccommodated state conformation (PubMed:35709277). (4) After GTP hydrolysis, EEFSEC dissociates from the assembly, selenocysteinyl- tRNA(Sec) accommodates, and peptide bond synthesis and selenoprotein elongation occur (PubMed:35709277).

Cellular Location [Isoform 1]: Nucleus.

Tissue Location Expressed at high levels in testis.

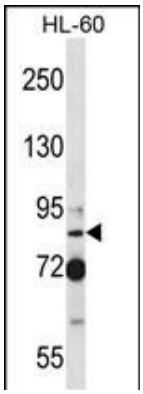
Background

The incorporation of selenocysteine into a protein requires the concerted action of an mRNA element called a sec insertion sequence (SECIS), a selenocysteine-specific translation elongation factor and a SECIS binding protein. With these elements in place, a UGA codon can be decoded as selenocysteine. The gene described in this record encodes a nuclear protein that functions as a SECIS binding protein. Mutations in this gene have been associated with a reduction in activity of a specific thyroxine deiodinase, a selenocysteine-containing enzyme, and abnormal thyroid hormone metabolism.

References

Meplan, C., et al. Carcinogenesis 31(6):1074-1079(2010)
Papp, L.V., et al. Antioxid. Redox Signal. 12(7):797-808(2010)
Di Cosmo, C., et al. J. Clin. Endocrinol. Metab. 94(10):4003-4009(2009)
Olieric, V., et al. Biochimie 91(8):1003-1009(2009)
Schomburg, L., et al. Thyroid 19(3):277-281(2009)

Images



SECISBP2 Antibody (Center) (Cat. #AP14908c) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the SECISBP2 antibody detected the SECISBP2 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.