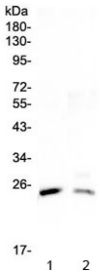
StAR Antibody for WB / Steroidogenic Acute Regulatory Protein Western Blot Antibody (RQ4391)

Catalog No.	Formulation	Size
RQ4391	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Predicted Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P49675
Applications	Western blot: 0.5-1ug/ml
Limitations	This StAR antibody is available for research use only.



StAR Antibody for WB. Western blot analysis of Steroidogenic Acute Regulatory Protein (StAR / STARD1) using a rabbit polyclonal antibody in 1) rat testis lysate and 2) mouse testis lysate. A band is detected at approximately 30 kDa, consistent with the mature mitochondrial form of StAR following cleavage of the N-terminal targeting sequence. The predicted molecular weight of the StAR preprotein is approximately 37 kDa, while mitochondrial processing produces a mature form of about 30 kDa commonly observed in western blot analysis of steroidogenic tissues.

Description

Steroidogenic Acute Regulatory Protein (StAR), encoded by the STARD1 gene, is a mitochondrial cholesterol transport protein that performs the rate-limiting step in steroid hormone biosynthesis. The StAR Antibody for WB / Steroidogenic Acute Regulatory Protein Western Blot Antibody is a rabbit polyclonal antibody designed for western blot detection of StAR protein in steroidogenic tissues and cultured endocrine cells. Western blot analysis of StAR is widely used to

investigate mitochondrial cholesterol transport, steroidogenesis signaling pathways, and regulation of steroid hormone production in endocrine systems.

In western blot experiments, the predicted molecular weight of the human StAR precursor protein is approximately 37 kDa. After synthesis in the cytoplasm, StAR is transported into mitochondria where the N-terminal targeting sequence is cleaved, producing a mature mitochondrial form of approximately 30-32 kDa. As a result, western blot analysis commonly detects bands corresponding to both the precursor and processed forms of StAR depending on the tissue source and mitochondrial processing efficiency. Detection of bands in the 30-37 kDa range is therefore consistent with the known biology of Steroidogenic Acute Regulatory Protein.

Western blot detection of StAR is particularly informative in studies of steroidogenic endocrine tissues. Expression of Steroidogenic Acute Regulatory Protein is strongly enriched in the adrenal cortex, testicular Leydig cells, and ovarian theca and luteal cells. Western blot analysis of adrenal or gonadal tissue lysates typically reveals prominent bands within the expected molecular weight range reflecting active steroid hormone biosynthesis in these cells. Because StAR levels increase in response to steroidogenic signaling, western blot experiments are frequently used to monitor changes in protein expression during hormone stimulation or endocrine differentiation.

Regulation of STARD1 expression is tightly controlled by endocrine signaling pathways that stimulate steroid hormone production. Hormones such as adrenocorticotropic hormone in adrenal cells and luteinizing hormone in gonadal tissues induce transcription of the STARD1 gene and increase mitochondrial cholesterol transport. Western blot analysis of StAR protein expression therefore provides a direct method for evaluating activation of steroidogenesis pathways and for monitoring mitochondrial cholesterol transport during endocrine signaling events.

Because StAR is processed during mitochondrial import, western blot band patterns may vary depending on tissue type, cellular context, and experimental conditions. Detection of precursor and mature mitochondrial forms by western blot provides insight into protein processing and steroidogenic activity within endocrine cells. The StAR Antibody for WB enables reliable western blot detection of Steroidogenic Acute Regulatory Protein and supports studies examining mitochondrial cholesterol transport, regulation of steroid hormone biosynthesis, and endocrine cell signaling pathways.

Application Notes

Optimal dilution of the StAR antibody should be determined by the researcher.

Immunogen

Amino acids EETLYSDQELAYLQQGEEAMQKALGILSNQEGWKKESQQD from the human protein were used as the immunogen for the StAR antibody.

Storage

After reconstitution, the StAR antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

StAR antibody, Steroidogenic acute regulatory protein antibody, STARD1 antibody, STAR protein antibody, Cholesterol transport protein StAR antibody

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