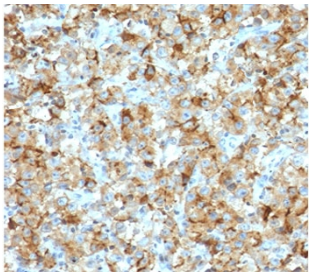
StAR Antibody Adrenal Marker / Steroidogenic Acute Regulatory Protein Antibody [clone SARP1-1] (V3886)

Catalog No.	Formulation	Size
V3886-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3886-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3886SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SARP1-1
Purity	Protein G affinity chromatography
UniProt	P49675
Localization	Cytoplasmic (mitochondrial)
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This StAR antibody is available for research use only.



StAR Antibody Adrenal Marker (clone SARP1-1). Immunohistochemistry analysis of Steroidogenic Acute Regulatory Protein (StAR / STARD1) in FFPE human testicular carcinoma tissue using a mouse monoclonal antibody. HRP-DAB brown cytoplasmic staining highlights tumor cells with steroidogenic differentiation, consistent with the mitochondrial localization of StAR in steroid hormone-producing endocrine cells, while surrounding stromal and non-steroidogenic tissues show minimal staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 Tris-EDTA buffer (10 mM Tris with 1 mM EDTA) for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to staining.

Description

Steroidogenic Acute Regulatory Protein (StAR), encoded by the STARD1 gene, is a mitochondrial cholesterol transport protein that plays a central role in steroid hormone biosynthesis. StAR Antibody Adrenal Marker / Steroidogenic Acute Regulatory Protein Antibody (clone SARP1-1) is a mouse monoclonal antibody developed for detection of this key steroidogenic regulatory protein in endocrine tissues. StAR mediates the transfer of cholesterol from the outer mitochondrial membrane to the inner mitochondrial membrane, an essential step that initiates steroid hormone synthesis. Because this cholesterol transport event represents the rate-limiting step in steroidogenesis, StAR is widely studied as a marker of steroid-producing endocrine cells.

Within the adrenal gland, StAR expression is highly enriched in steroidogenic cells of the adrenal cortex, where glucocorticoids, mineralocorticoids, and adrenal androgens are synthesized. Immunohistochemistry staining with a StAR antibody typically highlights cells of the adrenal cortical layers while the adrenal medulla shows little or no staining. This distinct tissue distribution makes StAR a valuable adrenal marker for identifying steroidogenic cortical cells and distinguishing them from medullary chromaffin cells that produce catecholamines rather than steroid hormones.

The adrenal cortex is organized into functional zones that produce different steroid hormones, including the zona glomerulosa, zona fasciculata, and zona reticularis. These cortical zones rely on mitochondrial cholesterol transport to initiate hormone synthesis, and StAR protein expression reflects the steroidogenic activity of these endocrine cells. Detection of Steroidogenic Acute Regulatory Protein therefore provides insight into adrenal steroidogenesis and the regulation of cholesterol transport within mitochondria of steroid-producing cells.

StAR expression is also observed in other steroidogenic tissues including testicular Leydig cells and ovarian theca and luteal cells. These endocrine cells require efficient mitochondrial cholesterol transport to sustain synthesis of sex steroids such as testosterone, progesterone, and estrogen. As a result, Steroidogenic Acute Regulatory Protein is widely used in endocrine research to examine steroidogenic differentiation and hormone biosynthesis pathways in adrenal and gonadal tissues.

Because StAR expression closely reflects the steroidogenic capacity of endocrine cells, antibodies targeting this protein are frequently used to investigate adrenal cortex biology and steroid hormone production. Clone SARP1-1 provides a mouse monoclonal antibody reagent designed to detect Steroidogenic Acute Regulatory Protein in studies examining adrenal steroidogenesis, mitochondrial cholesterol transport, and endocrine tissue organization.

Application Notes

Optimal dilution of the StAR Antibody Adrenal Marker should be determined by the researcher.

Immunogen

A portion of amino acids 39-108 from the human protein was used as the immunogen for this StAR Antibody Adrenal Marker.

Storage

Store the StAR antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

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

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