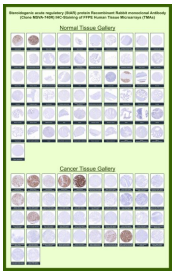
StAR Antibody for IHC / Steroidogenic Acute Regulatory Protein Antibody [clone MSVA-740R] (V6115)

Catalog No.	Formulation	Size
V6115-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6115-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-740R
UniProt	P49675
Localization	Mitochondrion
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This StAR / Steroidogenic acute regulatory protein antibody is available for research use only.



StAR Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Steroidogenic acute regulatory protein STARD1, also known as StAR, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal StAR antibody clone MSVA-740R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates cytoplasmic localization in steroidogenic cell populations, with strong signal observed in adrenal cortex and gonadal tissues, consistent with the mitochondrial function of StAR in steroid hormone biosynthesis. Most non-steroidogenic tissues show minimal staining. Evaluation across large TMA panels enables direct comparison of StAR expression across multiple organs and tumor types under standardized conditions. The observed immunohistochemistry staining patterns align with reported STARD1 expression profiles in the Human Protein Atlas.

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 within endocrine tissues. The StAR Antibody for IHC / Steroidogenic Acute Regulatory Protein IHC Antibody (clone MSVA-740R) is a recombinant rabbit monoclonal antibody

optimized for immunohistochemistry detection of steroidogenic cells in formalin-fixed paraffin-embedded tissue sections. StAR mediates the transfer of cholesterol from the outer to the inner mitochondrial membrane, a process considered the rate-limiting step of steroid hormone production. Because this function occurs specifically in steroid-producing cells, immunohistochemistry using a StAR antibody is widely applied to identify steroidogenic cell populations in tissue sections and to evaluate steroidogenic differentiation in endocrine tissues.

StAR expression is strongly enriched in organs responsible for steroid hormone synthesis, including the adrenal cortex, testicular Leydig cells, and ovarian theca and luteal cells. Immunohistochemistry staining with a StAR antibody typically produces distinct cytoplasmic staining corresponding to mitochondria-rich steroidogenic cells. In adrenal gland sections, immunohistochemistry labeling highlights cells of the adrenal cortex involved in glucocorticoid and mineralocorticoid production, while medullary cells are largely negative. In gonadal tissues, StAR antibody staining identifies Leydig cells of the testis and steroidogenic ovarian cells, producing a clear histologic pattern that allows steroidogenic cell populations to be visualized in tissue architecture using immunohistochemistry.

Immunohistochemistry detection of StAR is also highly relevant for studies examining endocrine tumors and steroidogenic lineage differentiation. Adrenocortical adenomas, adrenocortical carcinomas, and certain gonadal tumors may retain steroidogenic characteristics, and immunohistochemistry staining for Steroidogenic Acute Regulatory Protein can assist in identifying these cell populations in tissue sections. As a result, StAR antibody reagents are frequently incorporated into immunohistochemistry research panels evaluating adrenal tumors, steroidogenic differentiation, and endocrine tissue biology.

Large-scale immunohistochemistry analysis using human tissue microarray (TMA) panels containing multiple normal and cancer tissues provides a powerful approach to evaluate StAR expression across many tissue types simultaneously. Human tissue microarrays contain numerous tissue cores arranged on a single slide, allowing systematic comparison of staining patterns across normal organs and tumor specimens. Using a StAR antibody for IHC in human tissue microarray studies enables researchers to compare steroidogenic marker expression across large cohorts, evaluate staining patterns between endocrine tissues and non-steroidogenic organs, and analyze steroidogenic differentiation in tumor samples through standardized immunohistochemistry analysis.

Another important application of StAR immunohistochemistry is the identification of steroid-producing cell populations within complex endocrine organs. In adrenal gland sections, immunohistochemistry staining for StAR highlights steroidogenic cortical cells while sparing the adrenal medulla, providing a clear visual distinction between steroidogenic and catecholamine-producing compartments. Similar patterns are observed in gonadal tissues where immunohistochemistry identifies Leydig cells in the testis and steroidogenic cells of the ovary. Because of this highly specific tissue distribution, StAR antibody staining patterns observed by immunohistochemistry provide valuable insight into steroidogenic cell identity and endocrine tissue organization.

A recombinant rabbit monoclonal antibody such as clone MSVA-740R enables reliable immunohistochemistry detection of Steroidogenic Acute Regulatory Protein in FFPE tissues and human tissue microarray panels. Consistent staining of steroidogenic cells across normal and tumor tissue cores supports research applications focused on endocrine organ biology, steroid hormone biosynthesis, and characterization of steroidogenic differentiation in human tissue specimens.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the StAR Antibody for IHC should be determined by the researcher.

2. This StAR / Steroidogenic acute regulatory protein antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced

antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 39-108) of human STAR protein (exact sequence is proprietary) was used as the immunogen for the StAR Antibody for IHC.

Storage

StAR / Steroidogenic acute regulatory protein antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

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