SANTA CRUZ BIOTECHNOLOGY, INC.

CYP11B1 (H-11): sc-374096

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The steroid 11β-hydroxylase gene, also designated CYP11B1, is a marker for the functional differentiation of cells in the zonae fasciculata reticularis. The deduced protein CYP11B1 consists of 466 amino acids containing a secretory signal, epidermal growth factor-like repeats, and a proteolytically inactive cathepsin B-related sequence. A related protein, human aldosterone synthase (CYP11B2), is involved in substrate recognition and conversion, with a functionally significant residue 112 in the N-terminal region of human CYP11B2. The inherited disorder glucocorticoid-remediable aldosteronism is caused by a chimeric gene duplication between the CYP11B1 and CYP11B2 genes. This disorder is characterized by hyperaldosteronism and high levels of 18-hydroxycortisol and 18-oxocortisol, which are under ACTH control.

CHROMOSOMAL LOCATION

Genetic locus: CYP11B1 (human) mapping to 8q24.3.

SOURCE

CYP11B1 (H-11) is a mouse monoclonal antibody raised against amino acids 204-503 (deletion 401-466) mapping at the C-terminus of CYP11B1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP11B1 (H-11) is available conjugated to agarose (sc-374096 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374096 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374096 PE), fluorescein (sc-374096 FITC), Alexa Fluor® 488 (sc-374096 AF488), Alexa Fluor® 546 (sc-374096 AF546), Alexa Fluor® 594 (sc-374096 AF594) or Alexa Fluor® 647 (sc-374096 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374096 AF680) or Alexa Fluor® 790 (sc-374096 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

CYP11B1 (H-11) is recommended for detection of CYP11B1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CYP11B1 siRNA (h): sc-44795, CYP11B1 shRNA Plasmid (h): sc-44795-SH and CYP11B1 shRNA (h) Lentiviral Particles: sc-44795-V.

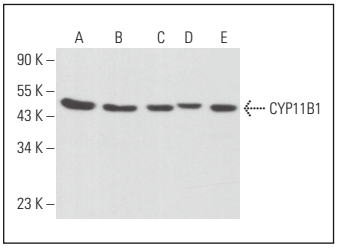
Molecular Weight of CYP11B1: 48 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, RT-4 whole cell lysate: sc-364257 or U-251-MG whole cell lysate: sc-364176.

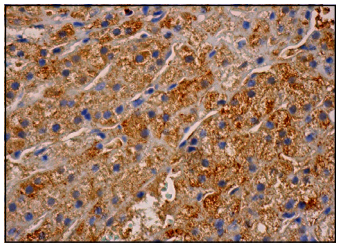
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CYP11B1 (H-11): sc-374096. Western blot analysis of CYP11B1 expression in MCF7 (**A**), OVCAR-3 (**B**), RT-4 (**C**), U-251-MG (**D**) and HT-29 (**E**) whole cell lysates.



CYP11B1 (H-11): sc-374096. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Lottrup, G., et al. 2015. Abundance of DLK1, differential expression of CYP11B1, CYP21A2 and MC2R, and lack of INSL3 distinguish testicular adrenal rest tumours from Leydig cell tumours. Eur. J. Endocrinol. 172: 491-499.
2. Melau, C., et al. 2019. Characterization of human adrenal steroidogenesis during fetal development. J. Clin. Endocrinol. Metab. 104: 1802-1812.
3. Xie, J., et al. 2022. Exploration of KCNJ5 somatic mutation and CYP11B1/CYP11B2 staining in multiple nodules in primary aldosteronism. Front. Med. 9: 823065.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.