SANTA CRUZ BIOTECHNOLOGY, INC.

CYP26A1 (F27 P6 A1): sc-53618

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cytochrome P450 proteins (CYPs) are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on their sequence similarities. CYP26A1, also referred to as retinoic acid-4-hydroxylase, is a major retinoic acid catabolic enzyme. CYP26A1 plays an important role in protecting tailbud tissues from inappropriate exposure to retinoic acid. CYP26A1 transcription is epigenetically regulated by nuclear retinoic acid receptor β2. Mutations in the gene encoding for CYP26A1 are associated with caudal agenesis and spina bifida, imperforate anus, agenesis of the caudal portions of the digestive and urogenital tracts, and malformed lumbosacral skeletal elements. CYP26A1 is upregulated in adenomatous polyposis coli mouse adenomas, human FAP adenomas, human sporadic colon carcinomas, and in the intestine of adenomatous polyposis coli (apc^{mcr}) mutant zebrafish embryos.

CHROMOSOMAL LOCATION

Genetic locus: CYP26A1 (human) mapping to 10q23.33; Cyp26a1 (mouse) mapping to 19 C2.

SOURCE

CYP26A1 (F27 P6 A1) is a mouse monoclonal antibody raised against the C-terminus of CYP26A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP26A1 (F27 P6 A1) is available conjugated to agarose (sc-53618 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53618 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53618 PE), fluorescein (sc-53618 FITC), Alexa Fluor® 488 (sc-53618 AF488), Alexa Fluor® 546 (sc-53618 AF546), Alexa Fluor® 594 (sc-53618 AF594) or Alexa Fluor® 647 (sc-53618 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53618 AF680) or Alexa Fluor® 790 (sc-53618 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CYP26A1 (F27 P6 A1) is recommended for detection of CYP26A1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CYP26A1 siRNA (h): sc-72077, CYP26A1 siRNA (m): sc-77074, CYP26A1 shRNA Plasmid (h): sc-72077-SH, CYP26A1 shRNA Plasmid (m): sc-77074-SH, CYP26A1 shRNA (h) Lentiviral Particles: sc-72077-V and CYP26A1 shRNA (m) Lentiviral Particles: sc-77074-V.

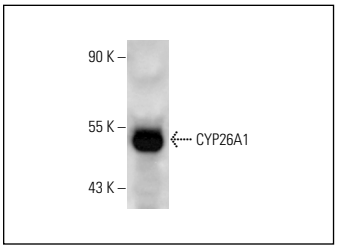
Molecular Weight of CYP26A1: 49 kDa.

Positive Controls: human ovary tumor tissue extract.

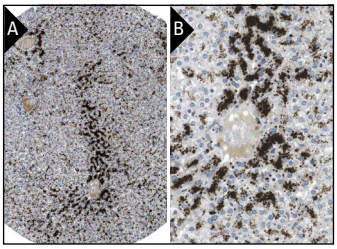
STORAGE

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

DATA



CYP26A1 (F27 P6 A1): sc-53618. Western blot analysis of CYP26A1 expression in human ovary tumor tissue extract.



CYP26A1 (F27 P6 A1): sc-53618. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining in hepatocytes and bile duct cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Osanai, M. and Lee, G.H. 2014. Increased expression of the retinoic acid-metabolizing enzyme CYP26A1 during the progression of cervical squamous neoplasia and head and neck cancer. BMC Res. Notes 7: 697.
2. Trasino, S.E., et al. 2015. Vitamin A deficiency causes hyperglycemia and loss of pancreatic β-cell mass. J. Biol. Chem. 290: 1456-1473.
3. Duprey-Díaz, M.V., et al. 2016. Optic nerve injury upregulates retinoic acid signaling in the adult frog visual system. J. Chem. Neuroanat. 77: 80-92.
4. Kasimanickam, V.R. 2016. Expression of retinoic acid-metabolizing enzymes, ALDH1A1, ALDH1A2, ALDH1A3, CYP26A1, CYP26B1 and CYP26C1 in canine testis during post-natal development. Reprod. Domest. Anim. 51: 901-909.
5. Ozaki, R., et al. 2017. Reprogramming of the retinoic acid pathway in decidualizing human endometrial stromal cells. PLoS ONE 12: e0173035.
6. Wołoszynowska-Fraser, M.U., et al. 2021. Differential retinoic acid signaling in the hippocampus of aged rats with and without memory impairment. eNeuro 8: ENEURO.0120-21.2021.
7. Horiguchi, K., et al. 2022. The multiciliated cells in Rathke's cleft express CYP26A1 and respond to retinoic acid in the pituitary. Cell Tissue Res. 388: 583-594.
8. Hiyama, Y., et al. 2022. *In vitro* transfection of up-regulated genes identified in favorable-outcome neuroblastoma into cell lines. Cells 11: 3171.
9. Liu, D., et al. 2022. Primary specification of blastocyst trophectoderm by scRNA-seq: new insights into embryo implantation. Sci. Adv. 8: eabj3725.

RESEARCH USE

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