10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HSD3B1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14585a

Product Information

Application	WB, E
Primary Accession	P14060
Other Accession	NP_000853.1
Reactivity	Human, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34568
Calculated MW	42252
Antigen Region	26-55

Additional Information

Gene ID	3283
Other Names	3 beta-hydroxysteroid dehydrogenase/Delta 5-->4-isomerase type 1, 3 beta-hydroxysteroid dehydrogenase/Delta 5-->4-isomerase type I, 3-beta-HSD I, Trophoblast antigen FDO161G, 3-beta-hydroxy-Delta(5)-steroid dehydrogenase, 3-beta-hydroxy-5-ene steroid dehydrogenase, Progesterone reductase, Steroid Delta-isomerase, Delta-5-3-ketosteroid isomerase, HSD3B1, 3BH, HSDB3A
Target/Specificity	This HSD3B1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 26-55 amino acids from the N-terminal region of human HSD3B1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HSD3B1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HSD3B1 (HGNC:5217)
Synonyms	3BH, HSDB3A
Function	A bifunctional enzyme responsible for the oxidation and isomerization of 3beta-hydroxy-Delta(5)-steroid precursors to 3-oxo- Delta(4)-steroids, an essential step in steroid hormone biosynthesis. Specifically catalyzes the conversion of pregnenolone to progesterone, 17alpha-hydroxypregnenolone to 17alpha-hydroxyprogesterone, dehydroepiandrosterone (DHEA) to 4-androstenedione, and androstenediol to testosterone. Additionally, catalyzes the interconversion between 3beta-hydroxy and 3-oxo-5alpha-androstane steroids controlling the bioavalability of the active forms. Specifically converts dihydrotestosterone to its inactive form 5alpha-androstanediol, that does not bind androgen receptor/AR. Also converts androstanedione, a precursor of testosterone and estrone, to epiandrosterone (PubMed:1401999, PubMed:2139411). Expected to use NAD(+) as preferred electron donor for the 3beta-hydroxy-steroid dehydrogenase activity and NADPH for the 3-ketosteroid reductase activity (Probable).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein. Mitochondrion membrane; Single-pass membrane protein
Tissue Location	Placenta and skin (PubMed:1401999). Predominantly expressed in mammary gland tissue.

Background

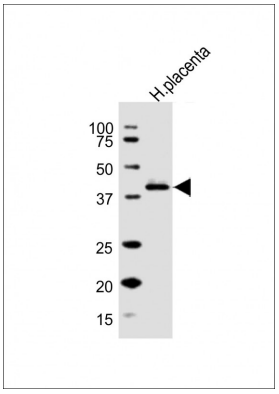
3-beta-HSD is a bifunctional enzyme, that catalyzes the oxidative conversion of Delta(5)-ene-3-beta-hydroxy steroid, and the oxidative conversion of ketosteroids. The 3-beta-HSD enzymatic system plays a crucial role in the biosynthesis of all classes of hormonal steroids. Efficiently catalyzes the transformation of pregnenolone to progesterone, 17-alpha-hydroxypregnenolone to 17-alpha-hydroxyprogesterone, DHEA to 4-androstenedione, dihydrotestosterone to 5-alpha-androstane-3 beta,17 beta-diol, dehydroepiandrosterone to androstenedione and 5-alpha-androstan-3 beta,17 beta-diol to 5-alpha-dihydrotestosterone.

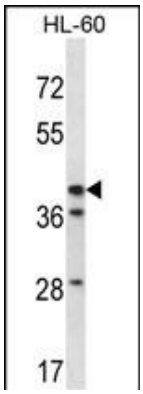
References

Canzian, F., et al. Hum. Mol. Genet. 19(19):3873-3884(2010)
Shimodaira, M., et al. Eur. J. Endocrinol. 163(4):671-680(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Liu, C.Y., et al. Carcinogenesis 31(7):1259-1263(2010)
Thomas, J.L., et al. J. Steroid Biochem. Mol. Biol. 120 (4-5), 192-199 (2010) :

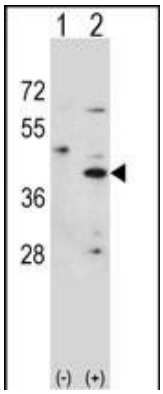
Images

Anti-HSD3B1 Antibody (N-term) at 1:1000 dilution + human placenta lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 42 kDa Blocking/Dilution buffer: 5% NFDM/TBST.





HSD3B1 Antibody (N-term) (Cat. #AP14585a) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the HSD3B1 antibody detected the HSD3B1 protein (arrow).



Western blot analysis of HSD3B1 (arrow) using rabbit polyclonal HSD3B1 Antibody (N-term) (Cat. #AP14585a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the HSD3B1 gene.

Citations

- Bisphenol S Impaired Human Granulosa Cell Steroidogenesis in Vitro
- Bisphenol A and S impaired ovine granulosa cell steroidogenesis

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