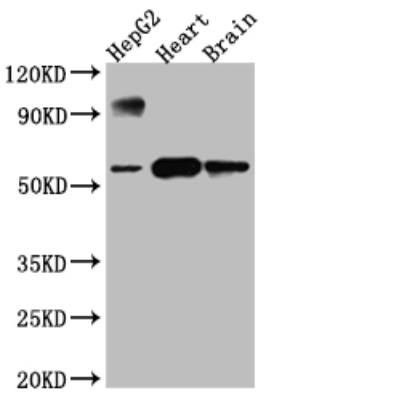
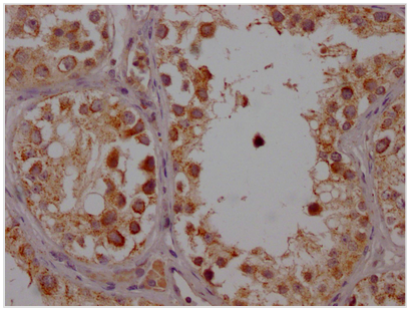
CYP17A1 Recombinant Monoclonal Antibody

Product Code	CSB-RA554990A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P05093
Immunogen	A synthesized peptide derived from human Cytochrome P450 17A1
Species Reactivity	Human, Rat
Tested Applications	ELISA, WB, IHC, IF; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IF:1:20-1:200
Relevance	Conversion of pregnenolone and progesterone to their 17-alpha-hydroxylated products and subsequently to dehydroepiandrosterone (DHEA) and androstenedione. Catalyzes both the 17-alpha-hydroxylation and the 17,20-lyase reaction. Involved in sexual development during fetal life and at puberty.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer; Cardiovascular; Metabolism; Signal transduction
Gene Names	CYP17A1
Clone No.	5A9

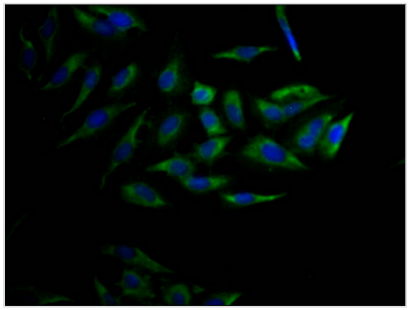
Image



Western Blot
Positive WB detected in: HepG2 whole cell lysate, Rat Heart whole cell lysate, Rat Brain whole cell lysate
All lanes: CYP17A1 antibody at 1:1000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 58 kDa
Observed band size: 58 kDa



IHC image of CSB-RA554990A0HU diluted at 1:100 and staining in paraffin-embedded human testis tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunofluorescence staining of Hela Cells with CSB-RA554990A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

The production process for the CYP17A1 recombinant antibody consists of four main steps. First, the CYP17A1 monoclonal antibody gene is sequenced and cloned into a plasmid vector. The recombinant vector is then introduced into a host cell line, followed by the purification of the CYP17A1 recombinant monoclonal antibody from the cell culture supernatant using affinity chromatography. During the production of the CYP17A1 monoclonal antibody, a synthesized peptide derived from human CYP17A1 is used as the immunogen. This CYP17A1 recombinant monoclonal antibody is recommended for use in ELISA, WB, IHC, and IF applications to detect human and rat CYP17A1 proteins.

The CYP17A1 protein is an enzyme involved in steroid hormone biosynthesis. It plays a crucial role in the production of androgens (such as testosterone) and estrogens in the gonads and adrenal glands. Specifically, CYP17A1 catalyzes two sequential reactions in the steroidogenic pathway. The first reaction is the conversion of pregnenolone or progesterone to 17α-hydroxypregnenolone or 17α-hydroxyprogesterone, respectively, by its 17α-hydroxylase activity. The second reaction is the conversion of 17α-hydroxypregnenolone or 17α-hydroxyprogesterone to dehydroepiandrosterone (DHEA) or androstenedione, respectively, by its 17,20-lyase activity. These two reactions are essential for the synthesis of androgens, which are important for the development of male sex organs and secondary sexual characteristics. In addition, CYP17A1 also plays a role in the biosynthesis of estrogens, which are important for the development of female reproductive organs and secondary sexual characteristics.