Data Sheet (Cat.No.TMAH-00418)

Anti-FADS1 Antibody (5W110)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	5W110
Purification:	Affinity-chromatography

Applications

Verified Activity:	1. Western Blot -Positive WB detected in: MCF-7 whole cell lysate, A549 whole cell lysate, Hela whole cell lysate -All lanes: FADS1 antibody at 1:2000 -Secondary: Goat polyclonal to rabbit IgG at 1/50000 dilution -Predicted band size: 52, 43 kDa -Observed band size: 55 kDa 2. IHC image of TMAH-00418 diluted at 1:100 and staining in paraffin-embedded human endometrial cancer 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°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB. 3. Immunofluorescence staining of HepG2 cell with TMAH-00418 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 565-congugated AffiniPure Goat Anti-Rabbit IgG(H+L). 4. Overlay Peak curve showing HepG2 cells stained with TMAH-00418 (red line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1*10^6 cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG(H+L) at 1:200 dilution for 35min at 4°C.Control antibody (green line) was rabbit IgG (1ug/1*10^6 cells) used under the same conditions. Acquisition of >10,000 events was performed.
Application:	ELISA, WB, IHC, IF, FCM
Recommended	WB:1:500-1:2000; IHC:1:50-1:200; IF:1:50-1:200; FCM:1:50-1:200.

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human FADS1
Antigen Species:	Human
Gene ID:	3992
Uniprot ID:	O60427
Synonyms:	Delta(5) desaturase;FADS 1;FADSD5;Fatty acid desaturase 1;Delta(5) fatty acid desaturase; Delta-5 desaturase;D5D
Biology Area:	Cancer, Cardiovascular, Tags & Cell Markers, Metabolism, Signal transduction

Research Background

Acts as a front-end fatty acyl-coenzyme A (CoA) desaturase that introduces a cis double bond at carbon 5 located between a preexisting double bond and the carboxyl end of the fatty acyl chain. Involved in biosynthesis of highly unsaturated fatty acids (HUFA) from the essential polyunsaturated fatty acids (PUFA) linoleic acid (LA) (18:2n-6) and alpha-linolenic acid (ALA) (18:3n-3) precursors. Specifically, desaturates dihomo-gamma-linoleoate (DGLA) (20:3n-6) and eicosatetraenoate (ETA) (20:4n-3) to generate arachidonate (AA) (20:4n-6) and eicosapentaenoate (EPA) (20:5n-3), respectively. As a rate limiting enzyme for DGLA (20:3n-6) and AA (20:4n-6)-derived eicosanoid biosynthesis, controls the metabolism of inflammatory lipids like prostaglandin E2, critical for efficient acute inflammatory response and maintenance of epithelium homeostasis. Contributes to membrane phospholipid biosynthesis by providing AA (20:4n-6) as a major acyl chain esterified into phospholipids. In particular, regulates phosphatidylinositol-4,5-bisphosphate levels, modulating inflammatory cytokine production in T-cells. Also desaturates (11E)-octadecenoate (trans-vaccenoate)(18:1n-9), a metabolite in the biohydrogenation pathway of LA (18:2n-6). Does not exhibit any catalytic activity toward 20:3n-6, but it may enhance FADS2 activity.

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