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AADAC Rabbit pAb

Catalog # AP99738

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P22760
Other Accession	P22760
Reactivity	Rat, Mouse
Predicted	Pig, Human, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	45734
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human AADAC
Epitope Specificity	228-273/399
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the 'GDXG' lipolytic enzyme family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The assembly of very-low-density lipoproteins (VLDLs) in the secretory apparatus of the hepatocyte relies on the mobilization of triacylglycerol (TAG) from the cytosolic pool by lipolysis and re-esterification. However, some of the re-esterified TAG products are returned to the cytosolic pool in the liver, which protects vulnerable body tissues from excess lipotoxic non-esterified fatty acids in the plasma. Some of the lipases involved in this process include arylacetamide deacetylase (AADAC) and its related proteins AADACL1 and AADACL2. AADAC, a single pass type II membrane protein of the endoplasmic reticulum, is expressed in hepatocytes, intestinal mucosal cells, pancreas and adrenal gland. It plays an important role in the metabolic activation of arylamine substrates to ultimate carcinogens. AADACL1 hydrolyzes the metabolic intermediate 2-acetyl monoalkylglycerol, and its inactivation results in disruption of ether lipid metabolism in cancer cells and impaired cell migration and tumor growth.

Additional Information

Gene ID	13
Other Names	CES5A1; DAC; 5033417E09Rik; Aada; AAAD_HUMAN; AADAC; 3.1.1.3; AAAD_MOUSE; AAAD_RAT; arylacetamide deacetylase; arylacetamide deacetylase (esterase)
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name

AADAC (HGNC:17)

Function

Catalyzes the hydrolysis of ester and amide bonds and is largely involved in prodrugs activation, xenobiotic detoxification or toxicity, and, in some contexts, lipid and indole metabolism (PubMed:17936933, PubMed:18034159, PubMed:19339378, PubMed:2043131, PubMed:21856291, PubMed:22207054, PubMed:22415931, PubMed:23542347, PubMed:24125761, PubMed:24464802, PubMed:26164127, PubMed:27422753, PubMed:33446525, PubMed:34450168, PubMed:37002641, PubMed:8063807). Prefers compounds with relatively small acyl groups, especially compounds with acetyl group (PubMed:26164127). Participates in the hydrolysis of clinical drugs including acetyl esters compounds such as eslicarbazepine, abiraterone and rifamycins (rifampicin, rifabutin, and rifapentine) and N-acetylarylamine compounds such as flutamide, N-monoacetyldapsone, and phenacetin (PubMed:19339378, PubMed:21856291, PubMed:22207054, PubMed:22415931, PubMed:24125761, PubMed:24464802, PubMed:26164127, PubMed:27422753). Participates in the hydrolysis of carcinogen such as 2-acetylaminofluorene (AAF) and propanil (PubMed:2043131, PubMed:26164127, PubMed:8063807). In addition, plays a role in lipid metabolism by hydrolyzing newly synthesized diacylglycerol, so limiting triacylglycerol synthesis for cytoplasmic storage droplet formation and for VLDL assembly (PubMed:23542347). Can also catalyzes the deacetylation of cholesterol acetate (PubMed:18034159). Moreover can play a role in metabolism of pineal indoles by catalyzing the deacetylation of N-acetylarylalkylamine compounds including N-acetylserotonin (NAS), melatonin and N- acetyltryptamine, NAS conversion being the most efficient reaction (PubMed:37002641).

Cellular Location

Endoplasmic reticulum membrane; Single-pass type II membrane protein {ECO:0000250|UniProtKB:Q7M370}. Microsome membrane; Single-pass type II membrane protein {ECO:0000250|UniProtKB:Q7M370}

Tissue Location

Detected in liver (at protein level). Mainly expressed in liver, small intestine, colon, adrenal gland and bladder

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.