

Rabbit Anti-ASS1 (Argininosuccinate synthase 1) [MD427R]: RM0471

Intended Use: For Research Use Only

Description: ASS1, also known as argininosuccinate synthase or citrulline-aspartate ligase, catalyzes the penultimate step of the arginine biosynthetic pathway in the urea cycle that is responsible for the synthesis of arginine and the clearance of nitrogenous waste.. This enzyme is essential for the detoxification of ammonia in the liver, converting citrulline and aspartate into argininosuccinate, which is subsequently cleaved to produce arginine and fumarate. Mutations in ASS1 are associated with citrullinemia (CTLN1), an autosomal recessive disorder characterized by severe vomiting spells and cognitive impairments, highlighting the importance of ASS1 in metabolic health. Loss of ASS1 expression is one of the common metabolic alterations observed in many cancers, and it is a prognostic biomarker of reduced metastasis-free survival. ASS1 deficiency leads to the dependence of extracellular arginine for survival, proliferation, and cell growth.

Specifications:

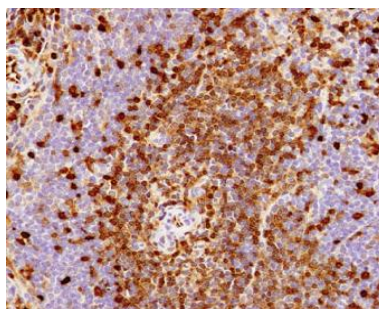
Clone:	MD427R
Source:	Rabbit
Isotype:	IgG
Reactivity:	Human, mouse, rat
Immunogen:	Synthetic peptide of human ASS1
Localization:	Cytoplasm
Formulation:	Purified antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN ₃)
Storage:	Store at 2°- 8°C
Applications:	IHC, IF, WB
Package:	

Description	Catalog No.	Size
ASS1 (Argininosuccinate synthase 1) [MD427R] Concentrated	RM0471	1 ml

IHC Procedure*:

Positive Control Tissue:	Breast cancer, colon cancer, ovarian cancer, spleen
Concentrated Dilution:	25-100
Pretreatment:	Tris EDTA pH9.0, 15 minutes Pressure Cooker or 30-60 minutes water bath at 95°-99°C
Incubation Time and Temp:	30-60 minutes at RT
Detection:	Refer to the detection system manual

* Result should be confirmed by an established diagnostic procedure.



FFPE mouse spleen stained with anti-ASS1 using DAB

References:

1. The Spatial Transcriptional Activity of Hepatic TCF7L2 Regulates Zonated Metabolic Pathways that Contribute to Liver Fibrosis. Iriscilla Ayala, et al. Nat Commun. Apr 10;16(1):3408, 2025. doi: 10.1038/s41467-025-58714-5.
2. A metabolic synthetic lethal strategy with arginine deprivation and chloroquine leads to cell death in ASS1-deficient sarcomas. Gregory R Bean, et al. Cell Death Dis. Oct 13;7(10):e2406, 2016. doi: 10.1038/cddis.2016.232.
3. Molecular genetics of citrullinemia types I and II. Hye In Woo, et al. Clin Chim Acta. Apr 20;431:1-8, 2014. doi: 10.1016/j.cca.2014.01.032.

Doc. 100-RM0471

Rev. A

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