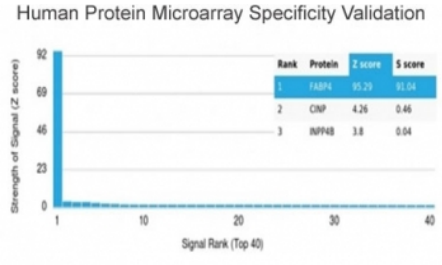
FABP4 Antibody / Adipocyte Lipid Metabolism Marker [clone FABP4/4424] (V9627)

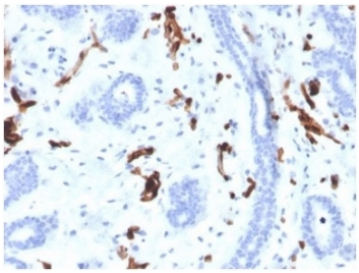
Catalog No.	Formulation	Size
V9627-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9627-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9627SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

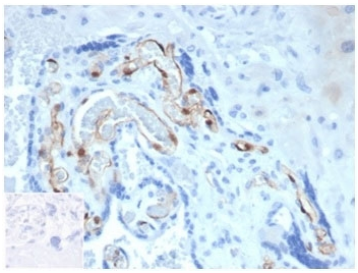
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	FABP4/4424
Purity	Protein A/G affinity
UniProt	P15090
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This FABP4 Antibody / Adipocyte Lipid Metabolism Marker is available for research use only.



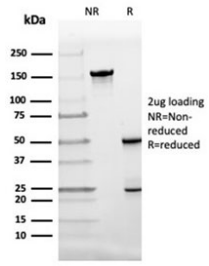
FABP4 Antibody Protein Microarray Validation. Analysis of a HuProt protein microarray containing more than 19,000 full-length human proteins using FABP4 Antibody / Adipocyte Lipid Metabolism Marker clone FABP4/4424. The antibody demonstrates highly selective recognition of FABP4 with a Z-score of 95.29 and an S-score of 91.04, supporting exceptionally strong target specificity for this adipocyte-associated lipid transport protein relative to other proteins represented on the array. CNIH4 and INPPB were identified as substantially lower-ranking signals. Z-scores represent signal intensity above array background in standard deviation units, while S-scores reflect the specificity gap between the top-ranked target and subsequent proteins. An S-score greater than 2.5 is generally considered supportive of target-specific antibody recognition.



FABP4 Antibody Breast Carcinoma IHC. Immunohistochemistry analysis of FFPE human breast carcinoma tissue using FABP4 Antibody / Adipocyte Lipid Metabolism Marker clone FABP4/4424 at 2 ug/ml. Stromal and adipocyte-associated cell populations demonstrate cytoplasmic HRP-DAB brown staining consistent with the role of FABP4 in intracellular fatty acid transport, adipocyte lipid metabolism, and metabolic-inflammatory signaling pathways within the breast tumor microenvironment. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in pH9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



FABP4 Antibody Placenta IHC. Immunohistochemistry analysis of FFPE human placental tissue using FABP4 Antibody / Adipocyte Lipid Metabolism Marker clone FABP4/4424 at 2 ug/ml. Placental stromal and vascular-associated cell populations demonstrate cytoplasmic HRP-DAB brown staining consistent with the role of FABP4 in intracellular fatty acid transport, lipid handling, and metabolic signaling pathways within metabolically active placental tissue. Nuclei are counterstained blue. Inset image shows a PBS-only negative control processed without primary antibody, confirming minimal background staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



SDS-PAGE analysis of purified, BSA-free FABP4 antibody (clone FABP4/4424) as confirmation of integrity and purity.

Description

FABP4 antibody recognizes Fatty acid-binding protein 4, a cytoplasmic lipid chaperone encoded by the FABP4 gene that functions in intracellular fatty acid transport and metabolic signaling regulation. FABP4 antibody, also referred to as Adipocyte fatty acid-binding protein antibody and aP2 antibody in the literature, is widely used in adipocyte biology, metabolic disease, and inflammatory signaling research due to the central role of FABP4 in lipid handling and energy homeostasis. FABP4 is predominantly localized within the cytoplasm of adipocytes and macrophages where it binds long-chain fatty acids and coordinates intracellular lipid trafficking pathways.

FABP4 is located on chromosome 8q21.13 and belongs to the fatty acid-binding protein family of small lipid transport proteins. The protein contains a characteristic beta-barrel lipid-binding domain that accommodates hydrophobic fatty acid ligands and other lipid mediators. Through interactions with metabolic enzymes, nuclear receptors, and inflammatory signaling pathways, FABP4 contributes to regulation of lipid storage, fatty acid oxidation, insulin sensitivity, and cytokine-associated metabolic responses. FABP4 also influences PPAR signaling and macrophage inflammatory activation associated with obesity-related metabolic dysfunction.

The FABP4 Antibody / Adipocyte Lipid Metabolism Marker format is especially relevant for studies investigating obesity, insulin resistance, type 2 diabetes, atherosclerosis, and adipocyte differentiation. FABP4 expression is highly enriched in adipose tissue and is strongly associated with mature adipocyte phenotypes and lipid accumulation states. Increased FABP4 activity has been linked to metabolic syndrome, vascular inflammation, hepatic steatosis, and chronic inflammatory conditions associated with altered lipid homeostasis.

In macrophages, FABP4 participates in inflammatory signaling and cholesterol handling pathways that contribute to foam cell formation and atherosclerotic plaque development. Elevated FABP4 expression has also been associated with tumor-

associated adipocyte signaling and metabolic remodeling within the cancer microenvironment. Because FABP4 integrates metabolic and inflammatory signaling networks, it has become an important biomarker in studies examining obesity-associated disease progression and lipid-mediated cellular stress responses.

FABP4 expression is commonly observed in adipocytes, macrophages, and metabolically active stromal cell populations where intracellular fatty acid trafficking and lipid buffering are required for cellular homeostasis. Cytoplasmic localization patterns are typically observed in adipose-associated tissue and inflammatory microenvironment studies, reflecting the soluble intracellular transport functions of FABP4.

Clone FABP4/4424 is useful for investigating adipocyte differentiation, lipid metabolism signaling, macrophage-associated inflammatory pathways, and obesity-related metabolic disease biology. HuProt protein microarray specificity validation further supports selective target recognition for FABP4, making this antibody valuable for studies examining adipocyte-associated metabolic regulation, fatty acid transport mechanisms, and inflammatory lipid signaling pathways.

Explore additional metabolic signaling and lipid regulation targets in our Metabolism Antibodies collection featuring biomarkers involved in adipocyte biology, fatty acid transport, and energy homeostasis research.

Application Notes

Optimal dilution of the FABP4 Antibody / Adipocyte Lipid Metabolism Marker should be determined by the researcher.

Immunogen

A portion of amino acids 1-132 was used as the immunogen for the FABP4 antibody.

Storage

Aliquot the FABP4 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

FABP4 antibody, Adipocyte FABP antibody, Adipocyte fatty acid-binding protein antibody, aP2 antibody, Fatty acid-binding protein 4 antibody, FABP4 metabolic marker antibody

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