

# Adipophilin

Concentrated and Prediluted Polyclonal Antibody  
901-3138-053123

**BIOCARE**  
M E D I C A L

Catalog Number:	ACI 3138 A	API 3138 AA	VLTR 3138 G20
Description:	0.1 mL, conc.	6.0 mL, RTU	20 mL, RTU
Dilution:	1:100	Ready-to-use	Ready-to-use
Diluent:	Van Gogh Yellow	N/A	N/A

## Intended Use:

For In Vitro Diagnostic Use

Adipophilin is a rabbit polyclonal antibody that is intended for laboratory use in the qualitative identification of adipocyte differentiation-related protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

## Summary and Explanation:

Adipocyte differentiation-related protein (ADRP/ADFP) is associated with the globule surface membrane material. Adipophilin (also known as PLIN2) has been shown to detect the expression of ADFP in sebocytes and sebaceous lesions (1-4). Sebaceous carcinoma is a rare malignancy of the sebaceous glands which can mimic other malignant neoplasms (such as basal cell carcinoma, lymphoma, melanoma, Merkel cell carcinoma, and squamous cell carcinoma), as well as inflammatory processes (such as blepharitis and chalazion), resulting in delayed diagnosis, poorer prognosis, and suboptimal treatment (2). It has been reported that adipophilin has shown a specific pattern of membranous expression, staining 16 of 16 (100%) sebaceous adenomas and showing strong uptake at the periphery of intracytoplasmic lipid vacuoles. Of 25 sebaceous carcinomas, 23 (92%) were also labeled with a similar pattern (2). In cases of poorly differentiated sebaceous carcinoma, adipophilin staining of sebocytes and xanthelasma was more reliable for interpretation of sebaceous differentiation than H&E sections (2). Metastatic renal cell carcinomas were also stained weakly to moderately positive for adipophilin (2). Adipophilin may be a useful marker in the identification of intracytoplasmic lipids, as seen in sebaceous lesions or in poorly differentiated sebaceous carcinomas, such as small periocular biopsy specimens (2,3). In addition, adipophilin has also been associated with lipid metabolism in Burkitt lymphoma and showed strong expression in the majority of Burkitt lymphomas (4). Adipophilin was also shown to be upregulated in lung adenocarcinoma and therefore may serve as a prospective marker for lung adenocarcinoma (5).

## Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Rabbit polyclonal

**Species Reactivity:** Human; others not tested

**Clone:** N/A

**Isotype:** IgG

**Protein Concentration:** Lot specific Ig concentration is not available.

**Epitope/Antigen:** aa193-223

**Cellular Localization:** Cell membrane/cytoplasm

**Positive Tissue Control:** Sebaceous skin

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

## Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Protocol Recommendations (VALENT® Automated Slide Staining Platform):

VLTR3138 is intended for use with the VALENT. Refer to the User Manual for specific instructions for use. Protocol parameters in the Protocol Manager should be programmed as follows:

**Deparaffinization:** Deparaffinize for 8 minutes with Val DePar.

**Pretreatment:** Perform heat retrieval at 98°C for 60 minutes using Val AR-Hi pH, 5X (use at 1X).

**Peroxidase Block:** Block for 5 minutes with Val Peroxidase Block.

**Protein Block (Optional):** Incubate for 10-20 minutes with Val Background Block.

**Primary Antibody:** Incubate for 30 minutes.

**Secondary:** N/A

**Linker:** Incubate for 10 minutes with Val Universal Linker.

**Polymer:** Incubate for 20 minutes with Val Universal Polymer.

**Chromogen:** Incubate for 5 minutes with Val DAB.

**Counterstain:** Counterstain for 5 minutes with Val Hematoxylin.

## Protocol Recommendations (intelliPATH FLX® and manual use):

**Peroxide Block:** Block for 5 minutes with Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** N/A

**Polymer:** Incubate for 30 minutes at RT with a secondary-conjugated polymer.

**Chromogen:** Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

## Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

## Technical Notes:

1. For improved tissue retention, using Biocare's Decloaking Chamber, place slides into the retrieval solution, retrieve at 80°C for 60 minutes. Allow solution to cool for 20 minutes and then wash in distilled water.

2. This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

## Limitations:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to



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## Limitations Cont'd:

other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

## Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA ([www.clsi.org](http://www.clsi.org)). 2011

## Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (6)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water. (7)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at <http://biocare.net>.

## Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

## References:

1. Heid HW, *et al.* Adipophilin is a specific marker of lipid accumulation in diverse cell types and diseases. *Cell Tissue Res.* 1998 Nov; 294(2):309-21.
2. Ostler DA, *et al.* Adipophilin expression in sebaceous tumors and other cutaneous lesions with clear cell histology: an immunohistochemical study of 117 cases. *Mod Pathol.* 2010 Apr; 23(4):567-73.
3. Milman T, Schear MJ, Eagle RC Jr. Diagnostic utility of adipophilin immunostain in periocular carcinomas. *Ophthalmology.* 2014 Apr; 121(4):964-71.
4. Ambrosio MR, *et al.* The alteration of lipid metabolism in Burkitt lymphoma identifies a novel marker: adipophilin. *PLoS One.* 2012; 7(8):e44315.
5. Zhang XD, *et al.* Identification of adipophilin as a potential diagnostic tumor marker for lung adenocarcinoma. *Int J Clin Exp Med.* 2014 Apr 15; 7(4):1190-6.
6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.