

# MACH 4™ Universal AP Polymer Kit

Micro-polymer detection  
902-BRR536C-032023

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

Available Product Formats	
Catalog Number	Volume
BRR536CG	6.0 mL
BRR536CH	25 mL
BRR536CL	100 mL
BRR536CG20	20 mL

## Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

## Background Information:

The MACH 4 Universal AP Polymer Kit is designed using a one-step or two-step method for detecting mouse and/or rabbit primary antibodies to form an antibody-enzyme complex. This complex is then visualized using an appropriate substrate/chromogen. In the one-step method a secondary antibody directly linked to the micro-polymer is applied while in the two-step method the secondary antibody is unlabeled, and an additional enzyme-linked polymer labeled reagent is sequentially applied. The two-step method is designed to amplify the detection in cases of low expressing antigens. Covered by one or more of the following US Pat. Nos. 6,686,461; 6,800,728; 7,102,024; 7,173,125; 7,462,689.

## Known Applications:

Immunohistochemistry (Formalin-fixed paraffin-embedded tissues)

## Materials and Methods:

### Reagents Provided:

Kit Catalog No.	Component Catalog No.	Component Description	Quantity x Volume
BRR536CG	BRR536BG	MACH 4 Universal AP Probe	1 x 6 mL
	BRR536AG	MACH 4 MR AP Polymer	1 x 6 mL
BRR536CH	BRR536BH	MACH 4 Universal AP Probe	1 x 25 mL
	BRR536AH	MACH 4 MR AP Polymer	1 x 25 mL
BRR536CL	BRR536BL	MACH 4 Universal AP Probe	1 x 100 mL
	BRR536AL	MACH 4 MR AP Polymer	1 x 100 mL
BRR536CG20	BRR536BG20	MACH 4 Universal AP Probe	1 x 20 mL
	BRR536AG20	MACH 4 MR AP Polymer	1 x 20 mL

\* Refer to the Biocare Medical website located at <http://biocare.net> for information regarding catalog numbers and ordering.

## Supplied As:

### UP536 – MACH 4 Universal AP Probe

Buffered saline solution, pH 7.2-7.4, contains a protein carrier and less than 0.1% sodium azide preservative. See Safety Data Sheet for additional details.

### MRAP536 – MACH 4 Universal AP Polymer

Buffered saline solution, pH 7.6-7.8, contains a protein carrier and less than 0.01% ProClin 300 and/or less than 0.5% ProClin 950 as a preservative. See Safety Data Sheet for additional details.

## Reconstitution, Dilution and Mixing:

The micro-polymer detection kit reagent(s) are optimized and ready to use with Biocare antibodies and ancillary reagents. No reconstitution, mixing, dilution, or titration is required.

## Species Reactivity:

Mouse and Rabbit IgG heavy and light chains.

## Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the vial label, when stored under these conditions. Do not use after expiration date. Storage under any condition other than those specified must be verified. The kit reagent(s) are ready-to-use and should not be diluted. The stability of user diluted reagent has not been established by Biocare.

## Staining Protocol Recommendations

Below are programming and protocol recommendations to assist the user when staining manually and/or using one of Biocare's Automated Staining Platforms for research applications. The user is responsible for further optimizations of the protocol.

1. Deparaffinization: Deparaffinize slides in Slide Brite or xylene. Hydrate slides in a series of graded alcohols to water.
2. Peroxide Block (Optional): Block for 5 minutes with Peroxidized 1.
3. Pretreatment Solution/Protocol: Please refer to the respective primary antibody data sheet for recommended pretreatment solution and protocol.
4. Protein Block (Optional): Incubate for 5-10 minutes at room temperature (RT) with Background Punisher.
5. Primary Antibody: Please refer to the respective primary antibody data sheet for incubation time.
6. Probe (mouse antibodies only): Incubate for 5-15 minutes at RT with MACH 4 Universal AP Probe.
7. Polymer: Incubate for 10-20 minutes for mouse antibodies or 30 minutes for rabbit antibodies at RT with MACH 4 MR AP Polymer.
8. Chromogen: Incubate for 5 minutes at RT with Warp Red.
9. Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

## Technical Notes:

1. Use TBS for washing steps only. PBS wash buffers will inhibit alkaline phosphatase staining.
2. Do not use goat serum as a protein block. Do not use Background Eraser or Background Terminator.

## Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

## Precautions:

1. Kit reagent(s) contain 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)<sup>1</sup>
2. Kit reagents contain less than 0.05% ProClin 300 and/or less than 1% ProClin 950. Wear gloves and protective clothing and take reasonable precautions when handling as ProClin is classified as an irritant and may cause skin contact sensitization. Avoid contact with eyes, skin, and mucous membranes.
3. Handle materials of human or animal origin as potentially biohazardous and dispose of such materials with proper precautions. In the event of exposure, follow the health directives of the responsible authorities where used.<sup>2,3</sup>
4. 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.<sup>4</sup>
5. Microbial contamination of reagents may result in an increase in nonspecific staining.



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## Precautions Cont'd:

6. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
7. Do not use reagent after the expiration date printed on the vial.
8. The reagent is optimized for use with Biocare antibodies and ancillary reagents. Refer to the primary antibody and other ancillary reagent instructions for use for recommended protocols and conditions for use.
9. Follow local and/or state authority requirements for method of disposal.
10. The SDS is available upon request and is located at <http://biocare.net>.

This micro-polymer detection kit contains components classified as indicated in the table below in accordance with Regulation (EC) No. 1272/2008.

Hazard	Code	Hazard Statement
	H317	May cause an allergic skin reaction.
N/A	H402 H412	Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

## Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

## References:

1. 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.
2. Occupational Safety and Health Standards: Occupational exposure to hazardous chemicals in laboratories. (29 CFR Part 1910.1450). Fed. Register.
3. Directive 2000/54/EC of the European Parliament and Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work.
4. 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.