

# Find Your MACH™ Match: Which MACH Detection is Right for You?

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Biocare's MACH™ detection line utilizes the most sensitive detection technology available to provide users with crisp, clean, intense IHC staining. Customers have the choice of several MACH detection kits, depending on their staining needs. However, with so many options available, it can be difficult to make a decision. Customers should assess the capabilities of each kit to determine which will be best for their lab.

In polymer-based detection systems, the final antibody is conjugated to a polymer strand embedded with multiple enzymes, thus increasing the ratio of antigen to enzyme in the tissue sample. The more enzyme that is present, the more chromogen substrate can be generated and deposited at the positive staining site, increasing staining intensity.

Biocare's most popular detection kit, the MACH 4 Universal Detection, utilizes a two-step polymer detection system. The additional antibody binding action of a two-step detection system acts as a powerful signal amplifier and, in turn, augments the amplification ability of the detection polymer. The universality of the MACH 4 detection system indicates that the same kit can be used to stain both mouse and rabbit antibody markers. This kit can be purchased in either an HRP or AP enzyme version, providing a range of chromogen options.

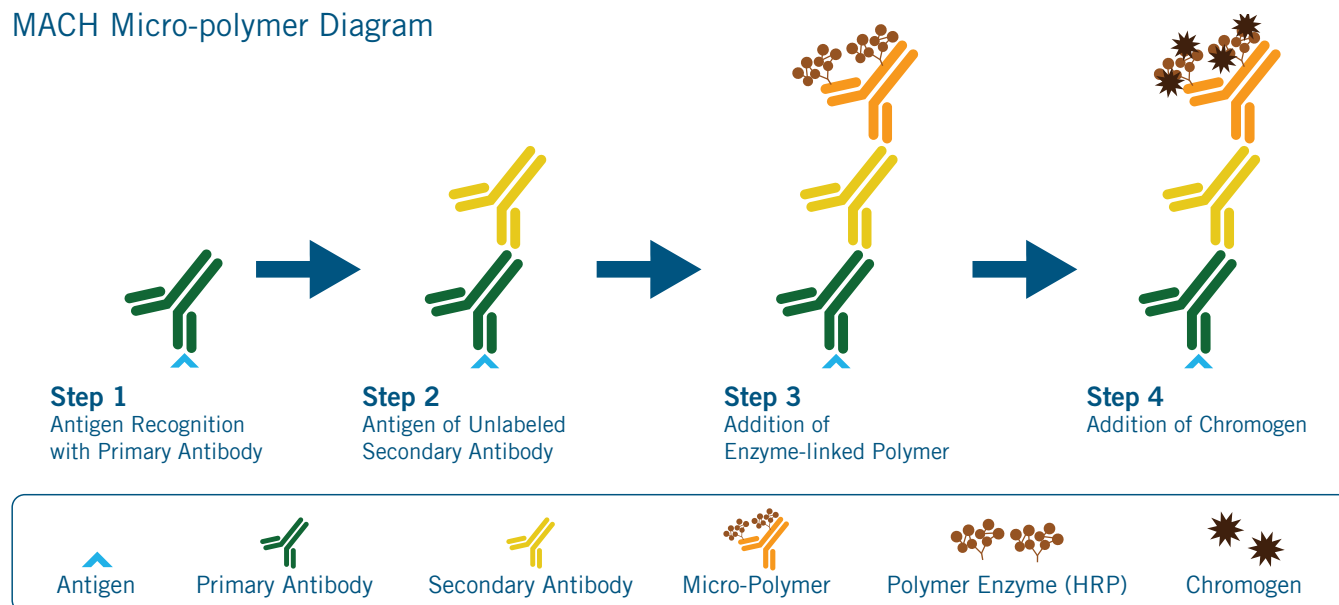
MACH 1 is similar to MACH 4 in that it is also a universal two-step polymer detection system available in both HRP and AP. However, it is formulated to be slightly less concentrated and intense than MACH 4. Laboratories on limited budgets who are still interested in the robustness of a two-step polymer detection may find it to be a more cost-effective alternative.

Biocare's MACH 3 Detection is also a two-step polymer detection system. However, MACH 3 is species specific, meaning it must be purchased for staining either mouse antibody markers or rabbit antibody markers specifically. Laboratories may be interested in MACH 3 for cases where the powerful amplification of two-step polymer technology is desired, but species-specific detection is preferred.

Finally, the MACH 2 detection system is a universal one-step polymer detection system. One-step polymer detections conjugate the polymer strand directly to the secondary antibody, trading some signal amplification capability in exchange for less time and reagent resources required. The MACH 2 detection line is perhaps the most versatile detection format in that it can be purchased in a universal version, species-specific versions, and a double stain version, Mach 2 Double Stain, to simultaneously stain for two different colors on the same slide.

With such a selection of different capabilities and price points, a laboratory seeking the highest quality in IHC staining may be interested in learning how the scope and technology of Biocare Medical MACH detection systems can benefit them.

### MACH Micro-polymer Diagram



To learn more, please visit us at [biocare.net](http://biocare.net) or call 1-800-799-9499. Our highly knowledgeable Technical Support staff is available to help you determine which detection kit may be the most beneficial for your laboratory's use.

[www.biocare.net](http://www.biocare.net)

## Detection System Comparison

Detection	intelliPATH™	MACH 4™	MACH 3™	MACH 2™	ONCORE Pro
Primary Antibody	Universal for Mouse and Rabbit	Universal for Mouse and Rabbit	Mouse or Rabbit	Universal, Mouse or Rabbit	Mouse or Rabbit
Technology	Two-step Micro-polymer	Two-step Micro-polymer	Two-step Micro-polymer	One-step Micro-polymer	One-step Micro-polymer
Sensitivity	++++ (mouse) ++ (rabbit)	++++ (mouse) ++ (rabbit)	+++	++	++
Antibody Dilution	1:300–1:400 (mouse) 1:50-1:100 (rabbit)	1:300–1:400 (mouse) 1:50-1:100 (rabbit)	1:100-1:200	1:50-1:100	1:50-1:100