

Biocare Basics: The Advantages of Rabbit Monoclonal Antibodies

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Monoclonal antibodies are known to offer certain advantages over polyclonal antibodies. However, within the realm of monoclonal antibodies, there is further division between mouse monoclonals and rabbit monoclonals. Rabbit monoclonal antibodies offer several advantages over mouse monoclonal antibodies, making them a popular choice where available.

The rabbit immune system generates a diverse antibody repertoire, resulting in antibodies with high specificity and affinity for their target antigens. This enhanced binding capability reduces the likelihood of cross-reactivity and improves the accuracy of IHC staining. Rabbit monoclonal antibodies often exhibit superior specificity and affinity compared to mouse monoclonals.

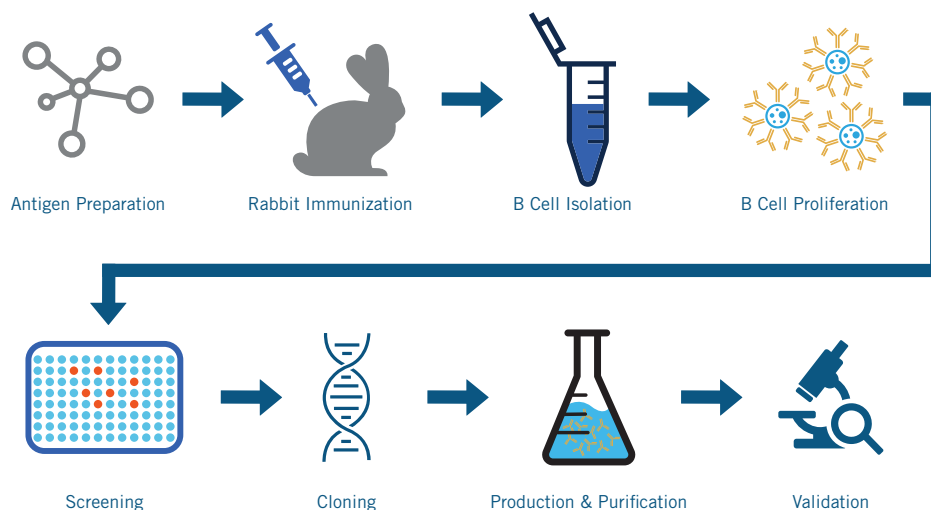
Greater sensitivity: Studies have shown that rabbit monoclonals demonstrate increased sensitivity in IHC assays.³ Their high affinity enables the detection of lower levels of antigens, making them particularly useful when working with limited tissue samples or detecting targets expressed at low levels.³ This enhanced sensitivity may contribute to more reliable and precise staining results.

Enhanced epitope recognition: Mouse monoclonal antibody production is limited by the small size of the mouse spleen and the fact that the mouse genetic lines used are often inbred, offering less diversity in immune responses.¹ Rabbit lines generally do not share these limitations, and so rabbit monoclonal antibodies are able to recognize a broader range of epitopes compared to mouse monoclonals.¹ This capability may be especially useful when studying complex biological processes that involve multiple protein variants or modifications.

Compatibility with mouse samples: Using mouse monoclonals in IHC on mouse tissue can lead to non-specific binding due to the similar endogenous mouse antigens.⁴ In such cases, rabbit monoclonals offer an advantage as they carry less risk of cross-reacting with these endogenous antigens in mouse tissues.⁴ This feature may allow for cleaner and more specific detection of target antigens, particularly in research settings that may be using mouse models, including clinical research settings that are utilizing human tissue xenografts on mouse bodies.⁴

In conclusion, rabbit monoclonal antibodies offer numerous advantages over mouse monoclonals and rabbit polyclonals in IHC, including higher antigen affinity, compatibility with mouse samples. These features may make rabbit monoclonals a preferred choice, especially in cases involving complex antigens, low-abundance targets, or mouse tissue samples.

Rabbit Monoclonal Antibody Illustration



To learn more about Biocare's menu of rabbit monoclonal antibodies, please visit our website at [biocare.net](https://www.biocare.net) or call 1-800-799-9499 Option 3

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