



Where Science and Husbandry Converge

Polyclonal Antibody Production
Peptide Development
Peptide Synthesis
Conjugation
Purification

Custom Llama Antibodies

Antibodies originating in camelids (camels, llamas and Alpacas) have a significantly different profile than antibodies collected from traditional donor animals. Unlike traditional antibodies that consist of both heavy and light chains, a large fraction of the antibodies circulating in camelids consist of only 2 heavy chains. Despite the lack of the light chains, this single-domain fragment can bind just as effectively to their target as traditional antibodies. These antibodies have a molecular weight of 100kDa, with the functional target binding site only 12-15 kDa in size. Due to their small size, they can bind to epitopes in clefts of folded proteins that are inaccessible to traditional larger antibodies and penetrate tissues and cells that classic IgG antibodies can not. The lack of a light chain in camelid antibodies also make them less susceptible to environmental changes. They have been shown to have a longer shelf life and a higher tolerance to heat and pH well beyond that of traditional antibodies.

They are an affordable alternative to monoclonal antibodies for use in drug delivery and drug development studies. The lymphocytes that create the smaller heavy chained antibodies are the basis of an emerging field of nanobodies, and have significant potential in a wide range of applications. The lack of the light chain not only makes these antibodies hardier, but also makes their binding less complex. This in turn makes them easier to manipulate genetically and to produce high yields of recombinant protein. It also makes them highly suitable for the development of neurological drugs, cancer treatments, peptide drugs, enzyme inhibitors as well as for use in developing biosensors for field use.

Polyclonal antibody production in llamas offer researchers antibodies that tolerate extreme conditions and a small size found with the single domain profile. Capralogics has experience in assisting researchers in the development of monospecific nanobodies and the production of polyclonal antibodies derived from llamas using our standard protocols. In addition, Capralogics carries a line of non-conjugated and conjugated secondary llama antibodies for use in various applications.



**To inquire about our llama custom services or products you may contact us at
413.477.6866 or info@capralogics.com**

Capralogics Inc

235 Czeski Road Hardwick, MA 01037 U.S.A.
Phone: 413.477.6866 Fax: 413.643.0067