

## Custom Rabbit Clonal Antibody Production

### Product Description

APS Ltd offers a range of rabbit clonal antibodies that have been designed for both clinical diagnostic and research applications. Rabbit clonal antibodies are developed by DB Biotech using a novel ***in-vitro* cloning technology** which enables the preparation of a pure immunoglobulin fraction corresponding to a single clone of B lymphocytes. The obtained immunoglobulin recognizes one single linear epitope on the antigen molecule, making this antibody comparable in quality to its monoclonal analogue. In addition, the influence of the protein tertiary structure – frequently present in epitopes formed during production of monoclonal antibodies – is eliminated in the immunoglobulins corresponding to the clonal antibody. As the clonal antibodies correspond strictly to the conserved linear epitope of the antigen molecule, the resulting antibody yields a higher-quality, more specific antibody with significantly better affinity and avidity.

Advantages of monospecific rabbit clonal antibodies:

- Exceptional specificity recognising the corresponding antigen at the concentration of  $\geq 5$  ng
- Highest sensitivity, affinity and avidity
- Reliability on any tissue
- Cost-effective dilutions
- Special focus on difficult targets
- Recognises only the specific linear epitope, not conformational as many monoclonal antibodies

### Custom Rabbit Clonal Antibody Production Workflow:

All custom rabbit clonal antibody projects are separated into phases, thereby enabling the project to be terminated at the end of any phase. No project will continue to the next phase without written confirmation being received from the client.

Each project is divided into 5 phases:

- Phase 1 – Antigen analysis and selection
- Phase 2 – Peptide synthesis
- Phase 3 – Rabbit immunisation and collection of antiserum
- Phase 4 – *In vitro* cloning to produce clonal antibody
- Phase 5 – Bulk antibody production

Please contact us at [sales@lifesciencegroup.co.uk](mailto:sales@lifesciencegroup.co.uk) to discuss your project requirements in detail.

## Project Schedule

	Process	Deliverable	Estimated timescale in weeks*
<b>Phase I</b>	Antigen analysis and selection	Selection of the immunogenic sequence which includes the strictly linear (3-7 amino acids) antigen specific epitope.	4 weeks
<b>Phase II</b>	Peptide synthesis, mass spectrometry and protein purification	Synthesis of an original immunogenic peptide (15-25 amino acid residues), which is used to immunize the rabbits in Phase III.	2 weeks
<b>Phase III</b>	Rabbit immunisation, including 2 immunisation boosters and collection of antiserum	Raw rabbit anti-peptide polyclonal antiserum containing 7-15 fractions of IgG, corresponding to 7-15 linear epitopes, is collected and prepared for further processing.	8 – 10 weeks
<b>Phase IV</b>	<i>In vitro</i> cloning to produce clonal antibody	<i>In vitro</i> cloning following a proprietary methodology (patent pending) with separation of a single homologous fraction of IgGs. Selection of the clone offering the optimal specificity, avidity and affinity to the single linear epitope. µg, mg, or g quantities of pure clonal IgG can be produced as required.	1 – 2 weeks

\*Total timescale, start to finish is ~4 – 5 months.

## Antibody Specifications

The following parameters will be reported on a Certificate of Analysis for each antibody (when supplied as purified material). Molecular weight (MALDI MS), Purity (HPLC), Solubility, Concentration, label, buffer and preservative.

## Shelf Life

Rabbit clonal antibodies have a shelf life of 24 months from the shipping date.

## Storage & Handling

Recommended storage is -20°C.

Antibodies are relatively fragile so repeated freeze/thaw cycles should be avoided. If an antimicrobial agent such as sodium azide is added, product may be stored at +4°C for up to 2 weeks. For long term storage, it is recommended to aliquot the antibody and store at -20°C.

## Shipping

Antibodies are shipped on blue ice packs.

## Precautions

The reagent contains sodium azide ( $\text{NaN}_3$ ) which is highly toxic in higher concentrations. The concentration in the reagent (0.05%) is not considered as hazardous. Disposal of waste material must be conducted in accordance with local regulations. Wear appropriate Personal Protective Equipment to avoid contact with eyes and skin.

## Ownership

For custom rabbit clonal projects all IP generated at any point of the production of the hybridoma remains the property of the client.

## Disclaimer

This product is for *in vitro* use only, research or diagnostic applications.

## Support

Antibody Production Services is a division of Life Science Group Ltd.

To learn more, contact us:

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