

Mouse Hybridoma Development

APPLICATIONS:

- Development of murine monoclonal antibodies against haptens, peptides and proteins
- For research and IVD kit manufacturing

EXTRAS:

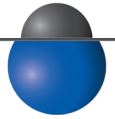
- Screening of antibody pairs for sandwich-ELISA
- Negative-screening to avoid cross-reactions of antibodies
- Isotyping
- Mycoplasma testing
- Cryopreservation of clones
- Small-scale test production of monoclonal antibodies from hybridoma

Hybridoma technology is a standard method for the development of monoclonal antibodies against a specific antigen of interest. Hybridoma cell lines result from the fusion of antibody-producing B-cells from various animal species with immortal myeloma cells. The resulting immortalized hybrid cell line can produce large quantities of one specific monoclonal antibody and it can be cryopreserved for many years. Thus, it is a convenient option for long-term antibody production and for a constant supply of the precious raw materials.

Benefiting from many years of experience, InVivo offers custom services for the development of mouse hybridoma cell lines that produce monoclonal antibodies against a broad range of peptides and proteins. Depending on your specific needs, we provide flexible and customized solutions to develop high-affinity antibodies against your antigen of interest for your intended downstream-application.

The entire process, including immunization, cell fusion, screening, cloning and initial characterization usually takes around 4-5 months.

Hybridoma Development Process



1 Antigen preparation

InVivo develops mouse hybridoma cell lines against your specific antigen (hapten, peptide or protein) of interest. In case the recombinant protein for immunization is not available, we can produce it for you: either in *E. coli* or transiently in HEK cells.

For immunization and screening, a total of 6 mg antigen is needed. Small peptides < 30 amino acids require a C- or N-terminal Cysteine for cross-linking to a carrier protein to become immunogenic and elicit an immune response.

2 Immunization

Mice are immunized with your antigen to induce immune response and to initiate B-cell maturation. We use Balb/c mice, because of their robust immune system and disease resistance. Antibody titers in the blood sera are determined by ELISA.

3 Cell Fusion, Selection & Screening

After isolation of the B-cells from the spleen, they are fused to myeloma cells (SP2/0) to generate hybridoma primary cultures, which are then subject to multiple rounds of screening and selection to identify cultures with consecutively best antibody titers.

4 Cloning, Subcloning, Testing, Characterization

The selected primary cultures are used for cloning by limited dilution and the best producing cultures are determined by ELISA. These pass through a second cloning and screening cycle to identify two final cultures for subsequent cultivation and propagation. An initial characterization is performed that includes isotyping, mycoplasma testing and cell banking.

5 Small-Scale Antibody Production (Optional)

After successful completion of hybridoma development, we offer a small-scale production of your new monoclonal antibody to obtain sufficient quantities for evaluation and testing. Cultivation takes place in super-spinner systems using our proprietary serum-free ISF-1 medium. The antibody is purified via one-step purification by protein A/G affinity chromatography to obtain a purity > 90%.

PACKAGE A (STEP 1-4):

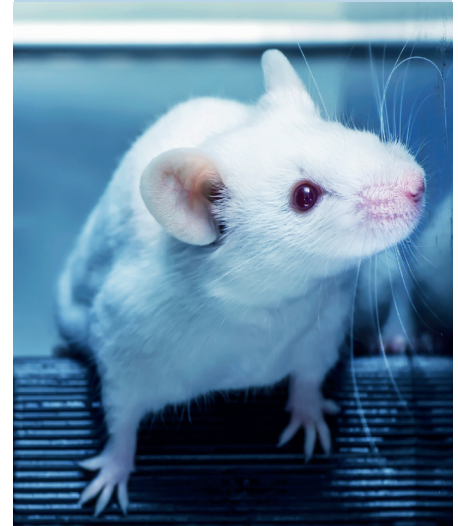
- Hybridoma development (antigen provided by customer)
- Immunization of 2 Balb/c mice

DELIVERABLES:

- 2 vials per clone, cryopreserved
- Cell Line Datasheet

TIMELINE & COSTS:

- ~ 22 weeks
- € 7,020.00



PACKAGE B (STEP 5):

Small-scale antibody production from newly developed hybridoma

DELIVERABLES:

10 mg monoclonal antibody (yield guaranteed), purity ≥ 90%

TIMELINE & COSTS:

- 8-10 weeks
- € 999.00

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