



MURINE MONOCLONAL ANTIBODY



COMPANY *focus*

BIOTEM is a Contract Research Organisation (CRO) which provides high added value services in immunotechnology **since 1980**.

BIOTEM complies with **ISO 9001** quality standards and proposes **contracts with guaranteed results**.

HYBRIDOMA *Development*

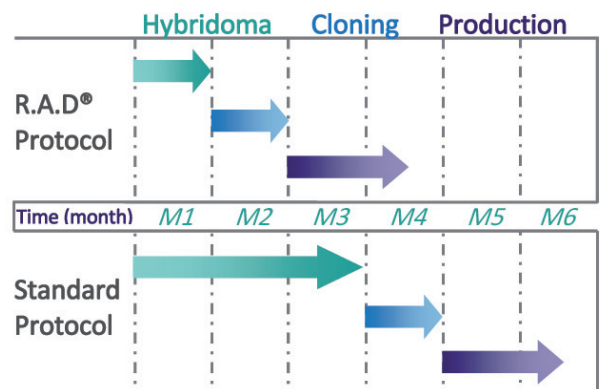
Project specification analysis

- **Target typology**
 - Virus, bacteria, etc.
 - Proteins (*intracellular, membrane, post-translational modifications, etc.*)
 - Peptides (*design, synthesis and conjugation*)
 - Chemical compounds and haptens
- **Initial materials and project constraints**
 - Available material (*quantity, purity*)
 - Immunogenicity / Toxicity
 - Cross reaction and specificity
 - Timelines
- **End applications**
 - ELISA, WB, IP, IF, IHC, FACS
 - Functional testing, quality controls
 - Lateral Flow, etc.

BIOTEM has developed a large panel of improved immunisation/fusion strategies enabling us to complete the most challenging projects.

Custom Immunisation & Fusion Strategies

- **R.A.D® Protocol:** Rapid Antibody Development
- Standard protocol
- Genetic immunisation (DNA based)
- Subtractive immunisation
- Surface Epitope Masking (SEM)
- *In vitro* restimulation
- Specific protocols available for
 - Small size & poorly immunogenic compounds
 - Minute quantities of immunogen (<300 µg)
 - High affinity antibodies



OUR COMMITMENT MAKES THE DIFFERENCE



ANTIBODY *Production*

The development of monoclonal antibodies includes several key screening stages. BIOTEM supports the development and the selection of hybridomas via optimised screening/cloning techniques.

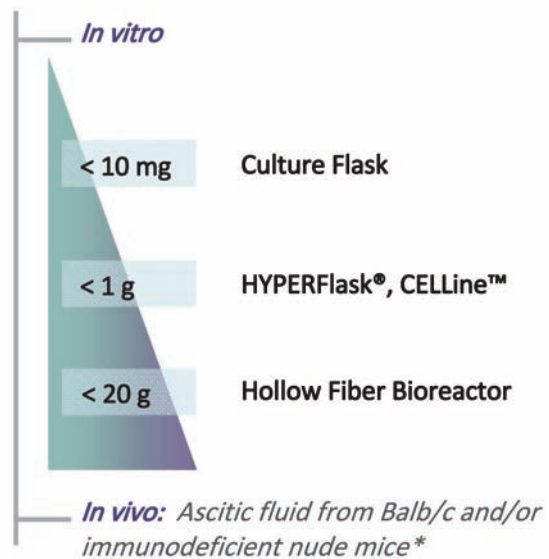
Hybridoma Selection

- Validated and optimised primary screening: false positive/negative reduced
- Robust hybridoma screening using proprietary *Cyclop Screening System*
- Additional tests for confirmation: ELISA, WB, FACS, etc.

Hybridoma Cloning & Banking

- Extensive hybridoma stabilisation by performing as many cloning cycles as necessary
- Multiple sub-clones generation and banking
- Validated cell bank with monitored viability
- Liquid nitrogen storage

The technology platform used by BIOTEM allows to choose among several production processes in order to perfectly match each project specifications.



**Nude mice allow in vivo antibody production using xenogenic hybridomas (human, rat, chimerical, etc.)*

Antibody Purification & Modification

- Chromatography: affinity, ion exchange, size exclusion, hydrophobic
- Specific methods for IgM
- Conjugation, fragmentation
- Endotoxin free batches (upon request)
- Quality controls

Additional Services

- Master & Working cell banks
- Hybridoma storage (liquid nitrogen)
- Epitope mapping
- Antibody sequencing
- Affinity and kinetic constant determination
- Stability studies and quality controls
- Peptide synthesis