

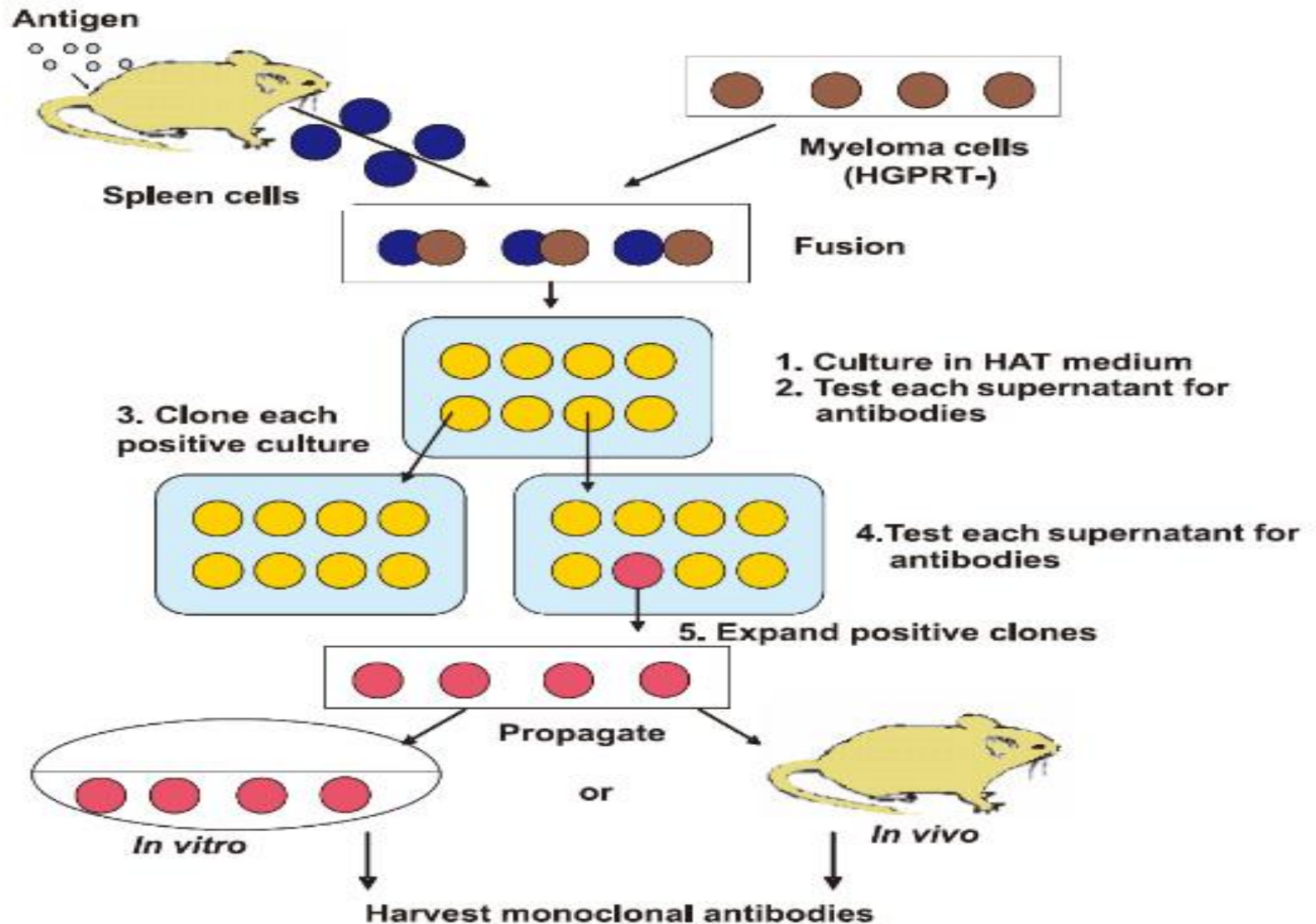
Hybridoma technology and production of monoclonal antibodies.

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Hybridoma technology

- Hybridoma technology is a well-established method to produce monoclonal antibodies (mAbs) specific to antigens of interest. Hybridoma cell lines are formed via fusion between a short-lived antibody-producing B cell and an immortal myeloma cell. Each hybridoma constitutively expresses a large amount of one specific mAb, and favored hybridoma cell lines can be cryopreserved for long-lasting mAb production.
- Hybridoma technology was discovered in 1975 by two scientists, Georges Kohler and Cesar Milstein.

- **Steps Involved in Hybridoma Technology**
- Hybridoma technology is composed of several technical procedures, including antigen preparation, animal immunization, cell fusion, hybridoma screening and subcloning, as well as characterization and production of specific antibodies.



- **Applications**
- mAb therapeutics
- Compared with other biologics, mAbs are able to maintain an extremely high affinity towards their target. Due to this high affinity and specificity, researchers began investigating the therapeutic potential of mAbs as metabolic activators, inhibitors and immuno-modulators.
- Diagnosis purpose
- Monoclonal antibodies are used for diagnosis of diseases using ELISA, dot blot or lateral flow assays.
- Protein detection and purification
- These are also used for screening of recombinant protein and their isolation through affinity chromatography.