



PHA-M

Mitogen-Induced T-Lymphocyte

Proliferation for Cytogenetic Applications

In vitro, resting T lymphocytes remain in a quiescent state and do not spontaneously proliferate making synchronized cell division a key challenge in cytogenetic and functional assays.

Capricorn Scientific's phytohemagglutinin M (PHA-M) is a plant-derived mitogen, reliably inducing synchronized cell proliferation. PHA-M enables efficient generation of metaphase spreads for reliable chromosome analysis in karyotyping workflows. Its consistent mitogenic performance supports a broad range of T-cell activation assays.

With proven reliability in both diagnostic and research settings, Capricorn Scientific's PHA-M remains a trusted standard in cytogenetics and immunology.

KEY BENEFITS OF PHA-M

» Targeted Activation of T Lymphocytes

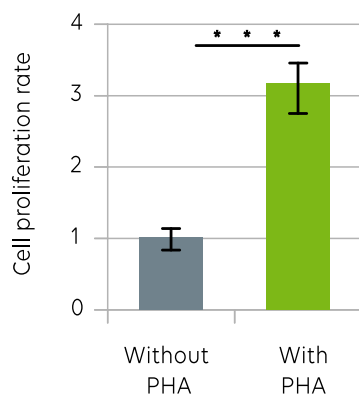
PHA-M reliably stimulates mitotic entry in resting T cells via CD2/CD3 receptor cross-linking – essential for cytogenetic culture preparation.

» High Mitogenic Efficiency

Enables robust lymphocyte proliferation within 48–72 h, supporting consistent metaphase yield in peripheral blood cultures.

» IVD-certified (Class A)

Conforms to European In Vitro Diagnostic Regulation (IVDR). Suitable for both diagnostic cytogenetics and research-based lymphocyte stimulation protocols.



CELL PROLIFERATION

This figure illustrates the proliferative response of human T lymphocytes to PHA-M stimulation. In the absence of mitogenic stimulation, resting cells remain largely quiescent. Upon exposure to PHA-M, a substantial increase in mitotic activity is observed, confirming its potent effect on T-cell activation and division.

Fig. 1 Quantification of lymphocyte proliferation with and without PHA-M stimulation. PHA-M significantly enhances mitotic activity in resting T cells ($p < 0.01$).

APPLICATIONS OF PHA-M



T-CELL ACTIVATION

PHA-M is a standard reagent in immunology for inducing activation and proliferation of resting T lymphocytes. Its robust mitogenic effect makes it essential in studies investigating T-cell functionality and immune regulation.



LYMPHOCYTE PROLIFERATION ASSAYS

Used to trigger in vitro proliferation of lymphocytes, PHA-M plays a key role in assays assessing cell-mediated immunity, immunotoxicity, and the biological effects of therapeutic compounds.



CELL CULTURE RESEARCH

PHA-M supports the activation and culture of human mononuclear cells, particularly in experimental settings focused on immune response mechanisms and intracellular signaling pathways.

ORDER INFORMATION

PRODUCT

Phytohemagglutinin (PHA-M)
for Lymphocyte Stimulation

VOL. CAT.NO.

10 ml PHA-H



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INFORMATION

For further support, feel free to contact our experts at techservice@capricorn-scientific.com or phone (+49 6424 944 64 0).