MAYO CLINIC
Mayo Medical Laboratories

1-800-533-1710

LPMAF

Lymphocyte Proliferation Panel for Mitogens and Antigens

Patient ID	Patient Name		Birth Date	Gender	Age
SA00057308	SAMPLEREPORT, LPMAF		1966-06-10	F	46
Order Number	**Client Order Number**	**Ordering Physician**	**Report Notes**		
SA00057308	SA00057308	Client, Client			
Account Information		**Collected**			
C7028846 DLMP Rochester		08 May 2013 00:00			

Lymphocyte Proliferation Panel

Lymphocyte Proliferation, Mitogens

Interpretation

(1) MCR

Significantly decreased proliferative response to both mitogens - PHA and PWM. PHA is a potent T cell mitogen, therefore, the almost complete lack of response to this stimulant suggests an impairment in global T cell function. There are several clinical contexts in which such decreased proliferative response to PHA may be observed, including immunosuppressive/ immunomodulatory therapy for solid-organ transplantation, autoimmunity, allogeneic HCT or ineffective functional T cell reconstitution post-autologous HCT, and combined immunodeficiencies (adult-onset or adult-manifestation). This assay is sensitive in that it is not affected by cellular dilution due to T cell lymphopenia. Abnormal T cell response to mitogens is diagnostically more specific but less sensitive of impaired T cell function. There is no linear correlation between the magnitude of immune compromise and the decrease in proliferative response to PHA. Mitogen proliferation result should always be interpreted in context of clinical history and other appropriate immunological evaluation. Day 0 viability was normal and did not affect the proliferative response to mitogens.

ADDITIONAL INFORMATION

Data are expressed as % proliferating cells of total specific cell population. The % Day 0 viability of the sample was determined using a flow cytometry assay which includes individual assessment of viable, apoptotic and dead cells. This method differs from the commonly used method of trypan blue dye exclusion which only identifies dead cells, and counts apoptotic cells along with the viable cells, resulting in an apparent higher cell viability. However, apoptotic cells do not contribute to cell proliferation and therefore accurate measurement of only viable cells provides meaningful information on the cells involved in stimulation and proliferative response. Strongly recommend using "critical ambient shipping boxes" available through Mayo Medical Laboratories (MML) inventory to ensure optimal transport of critical samples used for functional cellular assays.

Viab of Lymphs at Day 0

MCR

93.2 %

Reference Value
≥75.0

Max Prolif of PWM as % CD45

MCR

1.7 % Low

Reference Value
≥4.5

Max Prolif of PWM as % CD3

MCR

1.2 % Low

Reference Value
≥3.5

Max Prolif of PWM as % CD19

MCR

0.8 % Low

Reference Value
≥3.9

Max Prolif of PHA as % CD45

MCR

4.2 % Low

Reference Value
≥49.9

Max Prolif of PHA as % CD3

MCR

2.7 % Low

Reference Value
≥58.5

Mitogen Comment

MCR

Lymphocyte proliferative responses are affected by sample age. Samples received between 24–48 hours post-collection can show significant decrease in lymphocyte proliferative responses. Caution should be used when interpreting the results and clinical correlation is strongly recommended. Suggest repeat testing when clinically appropriate.

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905

Patient ID	Patient Name		Birth Date	Gender	Age
SA00057308	SAMPLEREPORT, LPMAF		1966-06-10	F	46
Order Number	**Client Order Number**	**Ordering Physician**	**Report Notes**		
SA00057308	SA00057308	Client, Client			
Account Information		**Collected**			
C7028846 DLMP Rochester		08 May 2013 00:00			

Lymphocyte Proliferation, Antigens

Interpretation

[1] MCR

Decreased proliferative response to Candida (CA) and essentially absent proliferation to Tetanus toxoid (TT). The TT result may reflect waning antigen (TT)-specific T cell memory due to time elapsed since vaccination. Recommend re-evaluation 4–6 weeks after TT vaccination, if clinically appropriate. Approximately one-third and 1/4th of healthy adults appear to have diminished responses to CA and TT respectively. Abnormal T cell responses to antigens are diagnostically more sensitive but less specific of impaired T cell function. Antigen proliferation result should always be interpreted in context of patient age, vaccination status (for TT), clinical history and other appropriate immunological evaluation. Day 0 viability was normal and did not contribute to the decreased proliferative response to antigens.

ADDITIONAL INFORMATION

Data are expressed as % proliferating cells of total specific cell population. The % Day 0 viability of the sample was determined using a flow cytometry assay which includes individual assessment of viable, apoptotic and dead cells. This method differs from the commonly used method of trypan blue dye exclusion which only identifies dead cells, and counts apoptotic cells along with the viable cells, resulting in an apparent higher cell viability. However, apoptotic cells do not contribute to cell proliferation and therefore accurate measurement of only viable cells provides meaningful information on the cells involved in stimulation and proliferative response. Strongly recommend using "critical ambient shipping boxes" available through Mayo Medical Laboratories (MML) inventory to ensure optimal transport of critical samples used for functional cellular assays.

Viab of Lymphs at Day 0

MCR

93.2 %

Reference Value
≥75.0

Max Prolif of CA as % CD45

MCR

1.1 % Low

Reference Value
≥5.7

Max Prolif of CA as % CD3

MCR

0.9 % Low

Reference Value
≥3.0

Max Prolif of TT as % CD45

MCR

0.8 % Low

Reference Value
≥5.2

Max Prolif of TT as % CD3

MCR

0.7 % Low

Reference Value
≥3.3

Antigen Comment

MCR

Lymphocyte proliferative responses are affected by sample age. Samples received between 24–48 hours post-collection can show significant decrease in lymphocyte proliferative responses. Caution should be used when interpreting the results and clinical correlation is strongly recommended. Suggest repeat testing when clinically appropriate.

Received: 09 May 2013 15:22 **Reported:** 13 Jun 2013 14:23

Laboratory Notes

[1] Analyte Specific Reagent: This test was developed and its performance characteristics determined by Mayo Clinic. It has not been cleared or approved by the U.S. Food and Drug Administration.

Performing Site Legend

Code	Laboratory	Address
MCR	Mayo Clinic Dept. of Lab Med and Pathology	200 First Street SW, Rochester, MN 55905