Lab Acronyms and Titer Overview

Laboratory Testing Acronyms from the 2022 Armed Forces Reportable Medical Events Guidelines

ALT	Alanine Aminotransferase
AST	Aspartate Aminotransferase
CATT	Card Agglutination Trypanosomiasis Test
CIA	Chemiluminescence Immunoassay
CF	Complement Fixation
CLIA	Clinical Laboratory Improvement Amendments
CNS	Central Nervous System
CK	Creatinine Kinase
CSF	Cerebrospinal Fluid
DA	Direct Agglutination
DFA	Direct Immunofluorescent Antibody
DNA	Deoxyribonucleic Acid
ELISA	Enzyme Linked Immunosorbent Assay
EIA	Enzyme Immunoassay
FTA-ABS	Fluorescent Treponemal Antibody Absorption
HI	Hemagglutination Inhibition
IFA	Indirect Immunofluorescent Antibody
IgG	Immunoglobulin Antibody Class G
IFA	Indirect Immunofluorescent Antibody
IgG	Immunoglobulin Antibody Class G
IgM	Immunoglobulin Antibody Class M
IGRA	Interferon-Gamma Release Assay
IHA	Indirect Hemagglutination
IHC	Immunohistochemistry
IU/L	International Units per Liter
LA	Latex Agglutination
LRN	Laboratory Response Network
MAT	Microagglutination Test
NAAT	Nucleic Acid Amplification Test
NAT	Nucleic Acid Test
PCR	Polymerase Chain Reaction
PRNT	Plaque Reduction Neutralization Test
RIPA	Radioimmunoprecipitation Assay
RNA	Ribonucleic Acid
RPR	Rapid Plasma Reagin
SAT	Slide Agglutination Test
TESA	Trypomastigote Excreted-Secreted Antigen
TP-PA	Treponema Pallidum Particle Agglutination
TST	Tuberculin Skin Test/ Mantoux Test
VDRL	Venereal Disease Research Laboratory

For further information, contact DRSi and Reportable Medical Event Help Desk:
DSN: 867-2377, COMM: 410-417-2377
Email: dha.apg.pub-health-a.mbx.disease-epidemiologyprogram13@health.mil

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Laboratory Tests and Testing Types Listed in the 2022 Armed Forces Reportable Medical Events Guidelines

Serology: Antibody and Antigen Testing	Microscopy / Microbiology
Agglutination tests - Latex agglutination (LA) - Direct agglutination (DA) - Indirect hemagglutination (IHA) - Slide agglutination tests (SAT) - Microagglutination tests (MAT) - Weil-Felix agglutination test Immunoassays - Enzyme immunoassay (EIA) - Enzyme linked immunosorbent assay (ELISA) - Enzyme linked immunospot assay (ELISpot) o Example: Interferon-gamma release essay (IGRA) for tuberculosis - Immunoblot (Western blot) - Fluorescent assays o Direct immunofluorescent antibody (DFA) o Indirect immunofluorescent antibody (IFA) Precipitation tests - Immunodiffusion - Tube precipitin tests Antibody titers Plaque assays - Bacteriophage lysis assay Plaque reducing neutralization test (PRNT) Complement fixation	Microscopic identification of causative agent - Example: identification of malaria parasites in a blood sample Immunohistochemistry (IHC) Blood smears Staining methods - Gram stain - Giemsa stain - Wright stain - Wright-Giemsa stain - Fite stain Histopathologic identification Cultures
Nucleic Acid Analyses / Molecular Testing	**Other Types of Testing**
Polymerase chain reaction (PCR) Reverse-transcriptase polymerase chain reaction (RT-PCR) Nucleic acid amplification tests (NAAT) DNA probe Liquid chromatography Mass spectrometry Genomic sequencing Nucleic acid tests (NAT)	Rapid antigen testing - Lateral flow tests or assays o Example: COVID-19 rapid tests - Rapid card tests o Example: Card agglutination trypanosomiasis test (CATT) Skin reaction tests - Example: Tuberculin skin test (TST) Animal inoculation

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Understanding Titers

Titers are used to measure the concentration of antibodies in the blood for various pathogens. Typically presented as ratios, a ratio value indicates a greater presence of antibodies in the blood. Titers work by completing dilution steps by half at a time. A positive titer value is typically a set reference value, which corresponds to the dilution step at which antibodies are detected in the sample (for example, 1:128 or 1:256 are common), or the greatest dilution step at which the antibodies are detected. Perhaps a patient has antibodies detected at the 1:64 dilution step, but not at the following dilution step of 1:128. Their result would be 1:64.

A titer starts at 1:1, is then diluted by half to 1:2, then 1:4, 1:8, 1:16, 1:32, 1:64, 1:128, 1:256, and so forth.

Many case definitions for Reportable Medical Events (RMEs) include a laboratory component listing a four-fold change in antibody titer, which may be either an increase or decrease* in titer between different samples from the same patient at differing points of time. These may be paired samples from the acute phase of their illness and after a period of recovery (convalescent). Case definitions and their requirements vary.

- Example of a four-fold change: a patient who is sick has an initial titer of 1:64 when they have their first sample drawn. Two weeks later, they have another sample drawn and their titer result is 1:256. This corresponds to two dilution steps, or a four-fold increase in titer.

Note: *Dependent on the RME, please review case definitions carefully.

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