Lab Dept: Serology

Test Name: PNEUMOCOCCAL ANTIBODY

General Information

Lab Order Codes:	MOCA
Synonyms:	Streptococcus pneumoniae IgG Antibodies, 23 Serotypes
CPT Codes:	86317 x23 – Immunoassay for infectious agent antibody, quantitative, not otherwise specified
Test Includes:	*Streptococcus pneumoniae* Types 1, 2, 3, 4, 5 ,8, 9N, 12F,14, 17F, 19F, 20, 22F, 23F, 6B, 10A, 11A, 7F, 15B, 18C, 19A, 9V, 33F antibodies.

Logistics

Test Indications:	Assessing the response to active immunization with nonconjugated, 23 valent vaccines. Determining the ability of an individual to respond to polysaccharide antigen(s). Determination of human IgG antibody levels to *Streptococcus pneumoniae* polysaccharide-specific serotypes and immunization efficiency of Pneumococcal vaccine.
Lab Testing Sections:	Serology - Sendouts
Referred to:	Mayo Medical Laboratories (MML Test: PN23)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	3 - 6 days, test set up Monday - Friday
Special Instructions:	Specimen will be retained for three months.

Specimen

Specimen Type:	Blood
Container:	SST (Marble, gold or red top tube)
Draw Volume:	1.5 mL (Minimum: 1.2 mL) blood

Processed Volume: 0.5 mL (Minimum: 0.4 mL) serum

Note: Submission of the minimum volume does not allow for repeat analysis and may result in a QNS (quantity not sufficient) test result.

Collection: Routine venipuncture

Special Processing: Lab Staff: Centrifuge specimen, remove serum and refrigerate. Store and ship at refrigerated temperatures.

Patient Preparation: None

Sample Rejection: Specimens other than serum, gross hemolysis, warm specimens, gross lipemia, mislabeled or unlabeled specimens

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Interpretive

Reference Range:

Serotype:	Normal Value (mcg/mL)
1 (1)	>=2.3
2 (2)	>=1.0
3 (3)	>=1.8
4 (4)	>=0.6
5 (5)	>=10.7
6B (26)	>=4.7
7F (51)	>=3.2
8 (8)	>=2.9
9N (9)	>=9.2
9V (68)	>=2.6
10A (34)	>=2.9
11A (43)	>=2.4
12F (12)	>=0.6

14 (14)	>=7.0
15B (54)	>=3.3
17F (17)	>=7.8
18C (56)	>=3.3
19A (57)	>=17.1
19F (19)	>=15.0
20 (20)	>=1.3
22F (22)	>=7.2
23F (23)	>=8.0
33F (70)	>=1.7

Results greater than the upper limit of the reference value are consistent with a positive immune response.

Note: The minimum concentration of IgG antibody necessary to insure protection against invasive disease has not been determined for any serotype of *Streptococcus pneumoniae*.

It is not possible at this time to define a universal “normal range” for IgG antibodies to *Streptococcus pneumoniae* serotypes that is appropriate for all healthy adults and children >2 years of age either prior to or following immunization with unconjugated vaccines. The range of concentrations cited was calculated from measurements in healthy, non-immunized adults in Rochester, MN and is offered as a guideline for comparison with adult persons everywhere.

As a general guideline, non-immunocompromised adults respond to immunization with unconjugated vaccines by approximately 3 weeks following immunization, and the concentrations of IgG antibodies to *Streptococcus pneumoniae* serotypes often show at least 2-fold increased (paired sera). The number of different serotypes to which healthy adults respond is variable. The minimum serologic response necessary to identify an individual as “normal” has not been defined either for the number of serotypes or the magnitude of response in units of concentration.

Serotype-specific antibodies may persist for up to 10 years following immunization or infection.

Critical Values:	N/A
Limitations:	The humoral immune response to *Streptococcus pneumoniae* is age-dependent and the database of IgG antibody concentrations to different serotypes is incomplete. Protective levels of IgG antibodies to *Streptococcal pnuemoniae* are not defined for any serotype.
Methodology:	Microsphere photometry
References:	Mayo Medical Laboratories August 2016
Updates:	3/6/2006: Test moved from Specialty Laboratories to Mayo. Note change in number of serotypes tested, reference ranges, CPT coding, volume requirements, methodology. 5/13/2008: Reporting change to normal values for serotypes. 1/1/2009: mcg/mL units added to reference values. 7/20/2011: Minimum volume increase as per Mayo. 7/2/2013: Reference range update at MML. 8/3/2016: Tube type update to SST.