

Chlamydia Antibody detection by IFA in Human Serum

Specimen Type	Serum	
Specimen Volume	1 mL	
Collection	Serum: Red top tube, no additives. Centrifuge the specimen for 10 minutes at 3000 rpm. Remove serum and place in a transfer tube. Freeze Immediately.	
Minimum Volume	0.500 mL	
Handling	Ship frozen on dry ice or on frozen ice packs.	
Rejection Criteria	<ul style="list-style-type: none"> • Hyperlipemic serum. • Hemolyzed serum. • Contaminated sera. • Greater than 3 freeze-thaw cycles. • Samples outside listed stability. • Samples submitted without two unique identifiers and date of collection. 	
Stability	Refrigerated for 14 days Frozen for 30 days. Stable for 3 freeze-thaw cycles	
Methodology	IFA	
Reference Range	C. pneumoniae IgG	<1:100
	C. trachomatis IgG	<1:100
	C. psittaci IgG	<1:100
	C. pneumoniae IgM	<1:10
	C. trachomatis IgM	<1:10
	C. psittaci IgM	<1:10
	C. pneumoniae IgA	<1:10
	C. trachomatis IgA	<1:10
C. psittaci IgA	<1:10	
Turn Around Time	Up to 4 business days	
CPT Code	Chlamydia Antibody Extended Pannel - 86632 x 9 Chlamydia Panel - 86632 x 6 C. trachomatis Panel - 86632 x 3	

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<p>Clinical Significance</p>	<p><i>Chlamydia trachomatis</i>, <i>Chlamydophila pneumoniae</i>, and <i>Chlamydophila psittaci</i> are three important species of human pathogens from the Genus Chlamydia.</p> <p><i>C. trachomatis</i> is a very prevalent sexually transmitted disease that causes nongonococcal urethritis (NGU) and epididymitis in men; cervicitis, urethritis, and pelvic inflammatory disease in women; and infantile conjunctivitis.</p> <p>About 10 % of all community-acquired pneumonia cases associated with acute respiratory diseases, asthma, bronchitis, pharyngitis, and acute chest syndrome cases are caused by <i>C. pneumoniae</i>.</p> <p><i>C. psittaci</i> is a zoonotic infectious agent able to infect a range of host species from mollusks to birds to mammals. Psittacosis is characterized by severe pneumonia in humans.</p> <p>Serological testing for diagnosing Chlamydial infections is routinely done and serves as a non-invasive tool in identification of acute and chronic Chlamydial infections.</p> <p>Primary Chlamydial infections are characterized by a predominant IgM response (within 2 to 4 weeks) followed by IgG and IgA response (within 6-8 weeks). In the acute phase of <i>C. pneumoniae</i> infections, IgM antibodies are usually lost within 2-6 months, IgG antibody titers rise and usually decrease slowly, while IgA antibodies decrease rapidly. IgA antibodies serve as a reliable marker for primary, chronic, and recurrent infections; following the treatment the levels of IgA return to baseline levels. Therefore, persistent levels of IgA antibodies are indicative of chronic infections. Re-infections with Chlamydia are characterized by prompt IgG response, while IgM response is not observed. IgG antibodies tend to persist for long periods and decline very slowly. Therefore, the presence of class IgG antibodies is mainly indicative of a Chlamydial infection at an undetermined time. A four-fold rise in IgG or high levels of IgG antibodies may be indicative of an on-going chronic or systemic infection.</p> <p>Cross-reactivity with and between Chlamydia species has been documented and is addressed by the Chlamydia IFA kit manufacturer (EuroImmun) in their product insert. See below for the tables provided by EuroImmun citing potential cross-reactivities.</p>
<p>Principle</p>	<p>Controls and samples are incubated onto the slide wells coated with purified elementary bodies of <i>C. trachomatis</i>, <i>C. pneumoniae</i> and <i>C. psittaci</i> followed by a washing step to remove unbound components. After 1 hour incubation with FITC- labeled conjugate, the slides are washed again, dried, and read for fluorescence.</p>

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Ig class	Antibodies substrate	Prevalence samples of healthy blood donors	Sample specificity (antibodies against)	n	Prevalence	
					positive	%
					Cross-reactions:	
IgA:						
IgA	Chlamydia trachomatis	7.5%	ANA**	30	6	20%
		1.7%	Bordetella (children samples)	30	2	6.7%
		7.5%	Borrelia	30	1	3.3%
			Treponema pallidum *	30	20	66.7%
			EBV-CA	30	2	6.7%
			Legionella (Serotype 1) **	22	5	22.7%
			Campylobacter **	30	7	23.3%
			Klebsiella	11	1	9.1%
		Chlamydia pneumoniae	33.5%	ANA**	30	14
	20.0%		Bordetella (children samples)	30	1	3.3%
	33.5%		Borrelia **	30	12	40%
			Treponema pallidum **	30	14	46.7%
			EBV-CA**	30	16	53.3%
			Legionella (Serotype 1) *	22	15	68.2%
			Campylobacter	30	11	36.7%
			Klebsiella	11	4	36.4%
	Chlamydia psittaci	0%	ANA	30	1	3.3%
			Bordetella (children samples)	30	0	0%
			Borrelia	30	0	0%
			Treponema pallidum *	30	2	6.7%
			EBV-CA*	30	2	6.7%
			Legionella (Serotype 1)	22	1	4.5%
			Campylobacter	30	0	0%
			Klebsiella	11	0	0%
<p>* Cross-reactions are likely. ** Cross-reactions are not excluded. The outer membranes of all three Chlamydia species are very similar. By inactivation of their membrane-bound LPS (lipopolysaccharide), cross-reactions between the Chlamydia species can be significantly reduced, but not excluded.</p>						

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Ig class	Antibodies substrate	Prevalence samples of healthy blood donors	Sample specificity (antibodies against)	n	Prevalence	
					positive	%
IgG	Chlamydia trachomatis	15.5%	ANA **	30	8	26.6%
		10%	Bordetella (children samples) **	30	5	16.7%
		15.5%	Borrelia *	30	13	43.3%
			Treponema pallidum *	30	17	56.7%
			EBV-CA	30	1	3.3%
			Legionella (Serotype 1) *	22	10	45.5%
			Campylobacter *	30	14	46.7%
	Klebsiella *	11	4	36.4%		
	Chlamydia pneumoniae	31%	ANA	30	9	30%
		30.0%	Bordetella (children samples)	30	2	6.7%
		31.0%	Borrelia *	30	17	56.7%
			Treponema pallidum *	30	18	60%
			EBV-CA*	30	17	56.7%
			Legionella (Serotype 1) **	22	11	50%
			Campylobacter *	30	20	66.7%
	Klebsiella **	11	5	45.5%		
	Chlamydia psittaci	6.5%	ANA	30	5	16.7%
		0%	Bordetella (children samples) **	30	3	10%
		6.5%	Borrelia **	30	7	23.3%
			Treponema pallidum*	30	9	30%
			EBV-CA	30	3	10%
Legionella (Serotype 1) **			22	3	13.6%	
Campylobacter **			30	7	23.3%	
Klebsiella **	11	2	18.2%			
<p>* Cross-reactions are likely. ** Cross-reactions are not excluded. The outer membranes of all three Chlamydia species are very similar. By inactivation of their membrane-bound LPS (lipopolysaccharide), cross-reactions between the Chlamydia species can be significantly reduced, but not excluded.</p>						
IgM:						
Ig class	Antibodies substrate	Prevalence samples of healthy blood donors	Sample specificity (antibodies against)	n	Prevalence	
IgM	Chlamydia trachomatis	22.1%	Chlamydia pneumoniae	31	3	9.7%
			Chlamydia psittaci	7	0	0%
	Chlamydia pneumoniae	15.2%	Chlamydia trachomatis	45	3	6.7%
			Chlamydia psittaci	7	1	14.3%
	Chlamydia psittaci	3.4%	Chlamydia trachomatis	45	0	0%
			Chlamydia pneumoniae	31	1	3.2%
<p>The outer membranes of all three Chlamydia species are very similar. By inactivation of their membrane-bound LPS (lipopolysaccharide), cross-reactions between the Chlamydia species can be significantly reduced, but not excluded.</p>						