

SERION

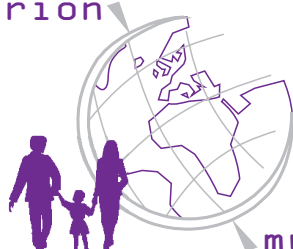
Complement Fixation Test (CFT)

The Complement Fixation Test (CFT) is a classical serological method for the detection of antibodies against pathogens of infectious diseases and has proved itself as a standard diagnostic method in many medical laboratories. With SERION CFT reagents, Institut Virion\Serion GmbH offers a great variety of antigens that are important in infectious serology of bacteria, viruses and parasites. The complement fixation test performance is a micromethod according to the KOLMER technique and to DIN 58 969 as well as to the WHO guidelines.



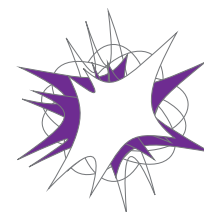
Complement

Complement is a system of functionally connected serum proteins, which are important components of the humoral immune system and are responsible for several biological functions involved in the process of infections. In the course of complement activation several proteins react in a distinct order similar to the cascade in blood coagulation. In the classical activation the complement cascade is initiated by complexes of antigens and IgG₁, IgG₂, IgG₃ and IgM antibodies, whereby the latter are the most efficient. In the so-called alternative activation pathway parts of microorganisms may activate complement without the participation of antibodies. The SERION Complement Fixation Tests make use of the classical complement activation pathway.



Order Information CFT - Reagents

Pathogen	Antigen 1,0 ml	Control Antigen 1,0 ml	Pos. Control Serum 0,1 ml	Neg. Control Serum 0,1 ml
Adenovirus	1121	2121	3121	4121
Brucella	1297	-	3297	4297
Campylobacter fetus / ssp.	1207	-	3207	4207
Campylobacter jejuni	1206	-	3206	4206
Chlamydia	1122	2122	3122	4122
Coxiella burnetii (Phase I)	1227	2227	3227	4227
Coxiella burnetii (Phase II)	1123	2123	3123	4123
Coxsackievirus A9	9060	9260	9061	9062
Coxsackievirus B1	1172	2179	3172	4172
Coxsackievirus B2	1173	2179	3173	4173
Coxsackievirus B3	1174	2179	3174	4174
Coxsackievirus B4	1175	2179	3175	4175
Coxsackievirus B5	1176	2179	3176	4176
Coxsackievirus B6	1177	2179	3177	4177
Coxsackievirus Pool (A9, B1 - B6)	1178	2178	3178	4178
Cytomegalovirus (CMV)	1130	2130	3130	4130
Echovirus Pool (4, 6, 9, 14, 24, 30)	1180	2180	3180	4180
Epstein-Barr Virus (EBV)	1132	2132	3132	4132
TBE Virus	1192	2192	3192	4192
Herpes Simplex Virus (HSV) 1 / 2	1154	2154	3154	4154
Influenza A Virus	1112	2112	3112	4112
Influenza B Virus	1113	2113	3113	4113
Influenza A/B Virus Pool	1114	2114	3114	4114
Legionella pneumophila	1224	-	3224	4224
Leptospira biflexa	9120	-	3120	9072
Leptospira canicola	9090	-	9071	9072
Leptospira grippotyphosa	9070	-	9071	9072
Leptospira icterohaemorrhagiae	9080	-	9071	9072
Leptospira pomona	9100	-	9071	9072
Leptospira sejroe	9110	-	9071	9072



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Pathogen	Antigen 1,0 ml	Control Antigen 1,0 ml	Pos. Control Serum 0,1 ml	Neg. Control Serum 0,1 ml
Listeria monocytogenes	1234	-	3234	4234
Measles Virus	1190	2190	3190	4190
Mumps / Parotitis Virus	1125	2125	3125	4125
Mycoplasma pneumoniae	1111	-	3111	4111
Neisseria gonorrhoeae	1253	-	3253	4253
Parainfluenza Virus 1	1116	2116	3116	4116
Parainfluenza Virus 2	1117	2117	3117	4117
Parainfluenza Virus 3	1118	2118	3118	4118
Parainfluenza Virus Pool (1, 2, 3)	1115	2115	3115	4115
Picornavirus	1126	2126	3126	4126
Poliovirus	1127	2127	3127	4127
Resp. Syncytial Virus (RSV)	1124	2124	3124	4124
Rotavirus	1193	2193	3193	4193
Toxoplasma gondii	1331	2331	3331	4331
Varicella-Zoster Virus (VZV)	1191	2191	3191	4191
Yersinia enterocolitica O3	1203	-	3203	4203
Yersinia enterocolitica O9	1209	-	3209	4209
Yersinia pseudotuberculosis	1201	-	3201	4201

Order Informationen Supplementary CFT - Reagents

Article	Volume	Article Nr.
Haemolytic system, ready-to-use	50 ml	9000
Complement	1 ml	9001
Haemolytic amboceptor	2 ml	9002
CFT buffer	2 l	9009
50 % Sheep erythrocyte suspension in Alsever solution	50 ml	9004
1 % Sheep erythrocyte suspension, ready-to-use	50 ml	9008

Test Principle

The first step in the SERION Complement Fixation Tests is the thermal inactivation of patient's serum samples to inactivate endogenous complement which may disturb the test calibration. Antigen is then added, leading to the formation of specific antibody-antigen complexes. Subsequent addition of complement will, in the presence of antibody-antigen complexes, lead to activation of the complement. An indicator system consisting of antibody coated erythrocytes (haemolytic system) is finally added to the system after a suitable time lapse for the complement fixation to complete. Lysis of the indicator system is dependent upon the presence or absence of immune complexes formed between the sample and specific antigen used. No lysis indicates the presence of immune complexes while lysis indicates non. Mild centrifugation of the system sediments any surviving erythrocytes, allowing the test to be evaluated visually. A button of red cells indicates a positive whereas a reddish clear solution is negative.

Diagnostics

Complement fixation tests can be used as screening tests for acute infections. The fact that one IgM molecule is capable of activating one C1-molecule of the complement complex whereas 168 IgG molecules are necessary to achieve the same effect, emphasises the significance of the test for the recognition of early infections. Positive CFT titres are often an indication for the presence of IgM antibodies or very high IgG antibody titres and are therefore an expression for an acute or recent infection, respectively. The CFT is especially helpful for acute respiratory infections: The, in general, strong IgG booster reaction is very well represented whereas residual titres of past infections are blanked out. The distinction between IgG and IgM antibodies is not possible. For determination of immune status the sensitivity of the method is, unfortunately, not sufficient. For more differentiated information about the immune status we recommend the use of the corresponding SERION ELISA *classic* for the separate detection of different immunoglobulin classes.

Advantages of SERION CFT products

- Large product portfolio for the indirect detection of various pathogens.
- High specificities by use of carefully selected antigens and control antigens.
- Early detection of acute primary infections and therapy successes.
- Possibility to use SERION CFT as an economic, cost-effective screening assay.
- Consistent complement and amboceptor concentration for all SERION CFT antigens.
- Combination of different CFTs on one plate possible.
- Normed CFT, therefore omission of pre-experiments in routine laboratories.
- Long stabilities of antigens, control antigens, positive and negative control sera.
- Use in human and veterinary diagnostics.