

NEW

recomLine Parvovirus B19 IgG [Avidity] recomLine Parvovirus B19 IgM

Strip-Immunoassay with antigens produced by recombinant techniques for the detection of IgG and IgM antibodies against human Parvovirus B19.

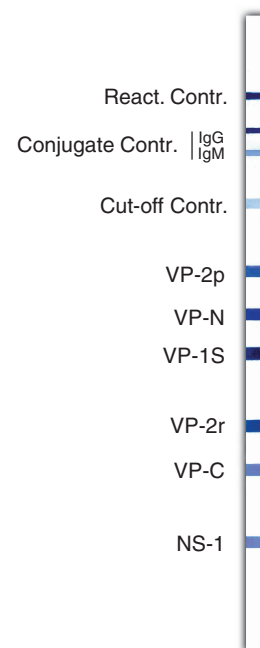
Human Parvovirus B19 occurs endemically world-wide. At intervals of several years, it causes epidemics in small areas from late fall to early summer, affecting kindergartens and schools in particular.

Its surface is formed by a protein envelope which consists of two polypeptides (VP-1 and VP-2). VP-1 differs from VP-2 only by an additional N-terminal fragment. Furthermore, a non-structural protein (NS-1) is synthesized, which is required for virus replication.

Clinical spectrum of a Parvovirus B19 infection:

- Fifth disease (erythema infectiosum): It progresses in 20% of cases without symptoms or with flu-like symptoms. Apart from the exanthema, polyarthralgia and a generalized swelling of the lymph nodes can occur occasionally.
- Aplastic crisis in patients suffering from hemolytic anemias.
- Spontaneous abortion/hydrops fetalis after infection during pregnancy.
- Persistent infection in immunosuppressed persons with chronic anemia and bone marrow depression.

By the kind of antigen pattern and the avidity determination of IgG antibodies the *recomLine* Parvovirus B19 provides an indication of the time of infection. The determination of antibodies against the NS-1 antigen can be helpful in the clarification of persistent Parvovirus B19 infections. With the use of VP-2 particles the presentation of conformational epitopes in addition to the linear epitopes is achieved.



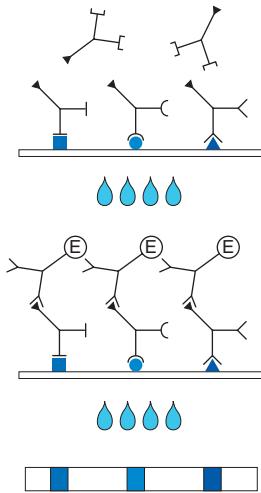
Product advantages

- **Recombinant antigens**, therefore:
 - High sensitivity and specificity
 - Easy and clear interpretation due to easy to read bands
- Easy test procedure; automation possible
- Test procedure is identical to other MIKROGEN strip tests
- Safe evaluation due to strip specific controls (cut-off and conjugate control)
- Separate detection of IgG and IgM antibodies possible
- Easy and reliable determination of avidity possible
- CE label: The *recomLine* Parvovirus B19 tests meet the high standard of the EC directive 98/79/EC on in vitro diagnostic medical devices
- **Antigen reaction pattern provides accurate determination of infection status**
- Automated test strip evaluation with *recomScan*

Related recombinant Parvovirus B19 antigens

Parvovirus antigen	Recombinant antigen	Molecular weight [kDa]
Main capsid antigen (conformational epitopes)	VP-2p	56
N-terminal parts of structure proteins VP-1 and VP-2	VP-N	60
VP-1 specific segment (differentiation to VP-2)	VP-1S	31
Main capsid antigen (linear epitopes)	VP-2r	56
C-terminal part of structure proteins VP-1 and VP-2	VP-C	42
None structural protein NS-1	NS-1	75

Testprinciple and Procedure



1st Incubation: A test strip loaded with Parvovirus B19 antigens is incubated with diluted serum or plasma in a dish for **60 min.**

wash 3 times

2nd Incubation: Peroxidase conjugated anti-human antibodies (IgG or IgM specific) are added. Incubate for **45 min.**

wash 3 times

3rd Incubation: **5 - 10 minutes** after addition of the coloring solution, insoluble colored bands develop at the sites on the test strips occupied by antibodies.

Examples

date	day after symptoms	recomWell Parvovirus B19		recomLine Parvovirus B19							strip result	interpretation
		IgG	IgM	Cutoff	VP-2p	VP-N	VP-1S	VP-2r	VP-C	NS-1		
1	2	164 U/ml positive	102 U/ml positive	IgG	++	+	-	+	-	-	positive	acute infection
				avidity	n	n					low avidity	
				IgM	++	++	+/-	++	-	-	positive	
2	17	251 U/ml positive	84 U/ml positive	IgG	++	+++	++	+++	++	-	positive	acute infection
				avidity	i	n					intermediate avidity	
				IgM	++	++	+/-	++	-	-	positive	
3	59	296 U/ml positive	33 U/ml positive	IgG	++	+++	+++	++	+	+	positive	status after infection
				avidity		h	h				high avidity	
				IgM	+	+	-	-	-	-	positive	
4	144	219 U/ml positive	21 U/ml indetermin.	IgG	++	+++	+++	++	-	+	positive	past infection
				avidity		h	h				high avidity	
				IgM	+/-	-	-	-	-	-	negative	
blood donor 1	positive	negative	IgG	+++	+++	+++	+/-	-	-	positive	past infection	
			avidity		h	h				high avidity		
blood donor 2	positive	negative	IgG	++	-	-	-	-	-	positive	past infection	
			avidity							no conclusion		

Typical Parvovirus B19 course of infection and two examples of healthy blood donors with past infections

The course of infection covers a period of approx. 21 weeks after appearance of symptoms. IgM reactivity decreased significantly between sample 2 and 3. The decrease of the VP-C IgG reactivity, the high avidity and the appearance of NS-1 IgG antibodies indicate a status after infection (sample 3). High avidity appears earliest 4 weeks after infection. NS-1 antibodies titers appear only six to eight weeks after infection, but not in all patients. In a study samples from blood donors were tested, 66% were IgG positive. Many samples presented this typical antigens pattern in past infections as shown. In Germany the infection rate in adults is about 60% and in children between 15-30%.

Storage and Shelf life

At 4 °C, 10 months from the time of production

Commercial Product

Article No. 4472 **recomLine Parvovirus B19 IgG [Avidity]***
Reagents for 25 determinations

Article No. 4473 **recomLine Parvovirus B19 IgM**
Reagents for 25 determinations

Article No. 11010 **Blot, Line - avidity reagent**
Reagent for 25 avidity determinations

* [] optional available
as additional reagent

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