

Parvovirus B19 Qualitative/Quantitative Real-time PCR



Parvovirus B19 is a DNA virus responsible for exantham erythema infectiosum (Fifth Disease), the viral crisis in patients with hemolytic anemia, as well as a polyarthropathy in adults. It can also cause paroxysmal cold hemoglobinuria and idiopathic thrombocytopenia, among other illnesses. While Fifth Disease is generally not a problem for pregnant women and their unborn babies, those who are not immune may develop the disease and, in about 5% of cases, may miscarry. It can also cause the fetus to develop severe anemia, known as “fetal wasting disease”. In parts of the world with changing seasons, people tend to get infected with Parvovirus B19 more often in late winter, spring, and early summer. Local outbreaks occur approximately every 3 to 4 years. Pet dogs and cats can be infected with other parvovirus strains that do not infect humans. Since Parvovirus B19 only infects humans, a person cannot get the virus from a dog or cat or infect an animal. Real-time PCR provides a rapid and sensitive method to determine the presence of target-specific amplifiable nucleic acids in all samples intended for PCR¹⁻³. For more information, call the lab at 513-636-9820.

Reporting Units:

Qualitative: Positive/Negative

Quantitative: copies/mL

Unacceptable Specimens:

- Frozen whole blood
- Swabs in gel or charcoal media

Shipping Conditions:

- Ambient if sent within 24 hours
- On wet ice if sent >24 hours after collection

Sample Type	Qualitative	Quantitative	Volume Needed	Collection Container
Anticoagulated Blood or Bone Marrow*	✓	✓	1mL	Lavender Top (EDTA)
Aspirate: endotracheal tube, tracheal	✓		1mL	Sterile Container
Body Fluids (i.e. amniotic, pericardial, pleural, vitreous)	✓		1mL	Sterile Container
Bronchoalveolar Lavage (BAL) fluid	✓		1mL	Sterile Container
Cerebrospinal Fluid (CSF)	✓		1mL	Sterile Container
Plasma*	✓	✓	1mL	Lavender Top (EDTA)
Serum	✓	✓	1mL	Gold Top (SST)
Swab**: conjunctival, labial, lesion, mouth, nasal, nasopharyngeal, rectal, skin, throat, vaginal, vesicle, wound	✓		n/a	Red or Green Culturette Swab
Tissue***	✓		0.3 g	Sterile Container
Urine	✓		1mL	Sterile Container

* EDTA is preferred, sodium heparin is acceptable.

** Red or green top culturette swabs preferred; viral transport media acceptable.

*** Wrap tissue in gauze wetted slightly with sterile saline to keep moist during transport.

Testing Schedule:

Testing for Parvovirus is performed Mon-Fri on first shift. For testing outside of this schedule, call the lab at 513-636-9820. **TAT:** 1-3 days

CPT Codes:

Qualitative: 87798

Quantitative: 87799

Contact Information:

Cincinnati Children's Division of Pathology
Molecular and Genomic Pathology Services
Phone: 513-636-9820
Fax: 513-803-2941
Email: pathology@cchmc.org
Website: cincinnatichildrens.org/pathology

For pricing or billing questions, call 513-636-9264.

Shipping Address:

Cincinnati Children's Hospital Medical Center
Lab Processing, B4.127
Attn: Molecular and Genomic Pathology Services (MGPS)
3333 Burnet Ave.
Cincinnati, OH 45229

References:

1. Parvovirus and Fifth Disease, <http://www.cdc.gov/parvovirusb19/about-parvovirus.html>, Centers for Disease Control and Prevention, 1600 Clifton Rd., Atlanta, GA, 30333. Last Reviewed: November 2, 2015.
2. Watzinger F, Suda M, Preuner S, et al. Real-time quantitative PCR assays for detection and monitoring of pathogenic human viruses in immunocompromised pediatric patients. *J Clin Microbiol.* 42:5189-5198. 2004.
3. Murray P, Baron E, Pfaller F, et al, eds. *Manual of Clinical Microbiology.* 7th ed. American Society of Microbiology Press, Washington D.C. 1999.

Clinical Lab Index:

Parvo QL: <https://www.testmenu.com/cincinnatichildrens/Tests/662817>

Parvo QN: <https://www.testmenu.com/cincinnatichildrens/Tests/975179>