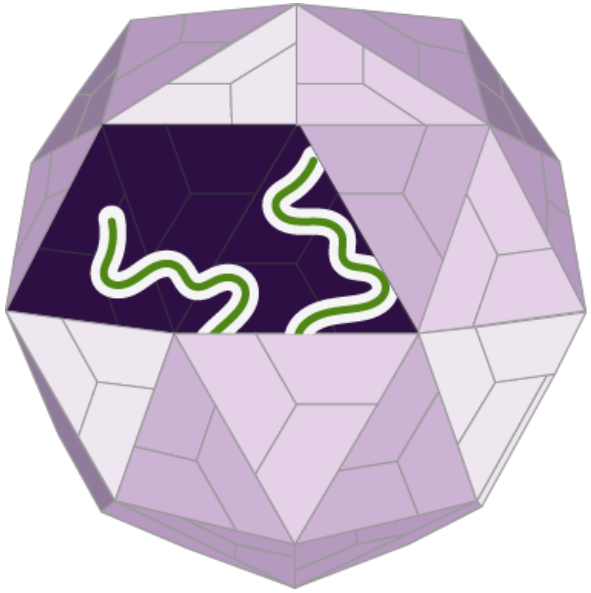

Name:
Poliovirus

Family:
Picornaviridae

Class:
Group IV (+)ssRNA
Non-enveloped

Genome:
~7500 bases, ~10 proteins

Mode of transmission:
Oral-Fecal

Biology & Disease

Poliomyelitis, or Polio, is caused by the Poliovirus. This highly infectious disease is transmitted mainly by the fecal-oral route, thus making it more prevalent in regions with poor sanitation conditions.

While most infections manifest as asymptomatic, about a quarter of the infected will develop clinical symptoms which include fever, headache and a sore throat. Less than one percent will experience paralytic poliomyelitis, or paralysis. Paralytic poliomyelitis occurs when the virus enters the central nervous system and begins to replicate in the motor neurons of the spinal cord, resulting in the death of those cells. Partial or complete reduction in breathing capacity may also occur if the virus infiltrates the motor neurons of the brain stem.

Two types of polio vaccines have been developed and used worldwide; (i) the formaldehyde killed polio vaccine – IPV [inactivated polio vaccine] develop by Jonas Salk and (ii) the OPV [oral polio vaccine] developed by Albert Sabin, which contains live attenuated virus.

In May 1988 the World Health Assembly formulated a plan to eradicate the Poliovirus, and as a result the number of Polio infections has been reduced by 99% and the virus is just about eradicated.