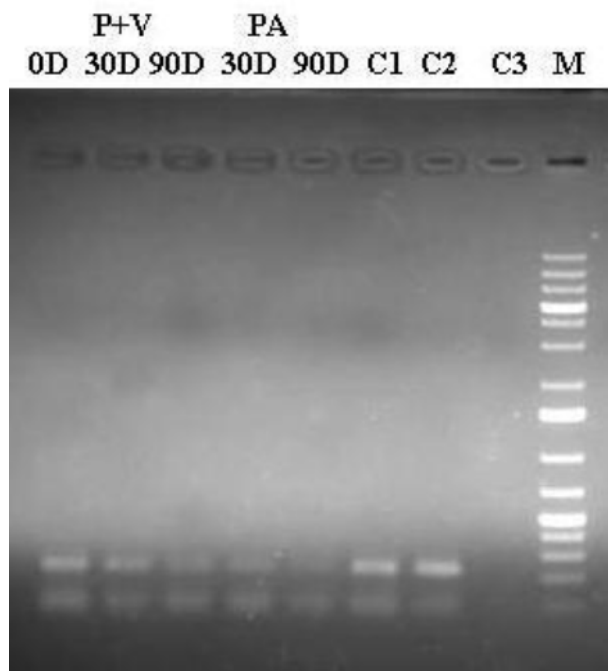


**A new biomarker for monitoring the effect of bacteriophage therapy in bovine Brucellosis**

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Brucellosis caused by *Brucella* is a major zoonosis globally. Once infected, the animal may remain carrier and shed bacteria infecting others for long period. We isolated a broad acting lytic brucellaphage and administered in Brucellosis affected cattle to kill the virulent *Brucella* residing in the body. Plasma RNA specific to *Brucella* (223 bp amplicon) was monitored by RT-PCR as an evidence of live *Brucella* in the body. A single dose of the phage alone could eliminate live *Brucella* in the body within 3 months as evident from non – detectable RNA characteristic of *Brucella abortus* in plasma by RT-PCR. The animals negative for *Brucella* RNA were also negative by bacterial culture of body secretions and excretions while samples from untreated animals exhibited growth of *Brucella* on media. The results suggest that phage has a potential to abolish the carrier state in Brucellosis infected cattle and plasma RNA can be used as a biomarker of live *Brucella* for non invasive monitoring of the efficacy of phage therapy.



**RT-PCR showing *Brucella* specific band (223 bp) on 0 day and in controls C1 and C2 at 90 day and absence of the band in case of phage treated animal (PA) on 90 day. The band is diminished at 30 and 90 days in animals treated with phage pulsed vaccine (PV) and on 30 day in phage treated cattle.**