**Conclusion**: In conclusion, preliminary results show that this method may provide an easily adaptable high throughput alternative for multiplex detection and monitoring of arboviruses in multiple species.

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## Evaluation of *Lactobacillus rahmnosus* for its anti-inflammatory and analgesic properties

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**Background**: Inflammation is the cells and body tissues response against an injury. Injury can be caused due to any reasons like infections, chemicals and thermal and mechanical. Though, inflammation is body's own defense mechanism but sometimes these complex events and mediators involved in the inflammatory response can stimulate or intensify many reactions which lead to damage to body's tissues. Non-steroidal anti-inflammatory drugs (NSAID's) are mostly used for the treatment of inflammation and other related diseases.However, constant use of NSAID may lead to gastro-intestinal ulcers, bleedingand renal disorders. Immunomodulatory and anti-arthritic activity of *Lactobacillus casei* and *Lactobacillus acidophilus* are well known. Therefore present investigations were carried out to evaluate analgesic and anti-inflammatory activity *L. rahmnosus* in female wistar rats.

**Methods & Materials**: Diclofenac sodium was used as standard drug for comparison. *L. rahmnosus*, drugs and vehicle were administered orally with feeding cannula. Analgesic activity was evaluated by acetic acid-induced writhing test while anti-inflammatory activity was tested by using carrageenan induced paw edema model.

**Results**: Results showed that *L. rahmnosus* significantly decreased the paw thickness at t = 24 hours in female wistar rats at $P < 0.05$. Also, it protected the females rats from writhing induced by acetic acid. Protection provided by *L. rahmnosus* was more pronounced in comparison to standard drug diclofenac sodium.

**Conclusion**: Present study clearly suggests that *L. rahmnosus* suppress the first phase of carrageenan induced paw edema and decreased the acetic acid induced writhings in wistar rats. Thus it can be used as a natural NSAID.

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## Comparison of two isothermal amplification methods: Thermophilic helicase dependent amplification (tHDA) and loop mediated isothermal amplification (LAMP) for detection of *Plasmodium falciparum*

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**Background**: As malaria incidence declines and transmission becomes more heterogeneous, large numbers of samples need to be screened to target intervention measures appropriately. Recently, the World Health Organisation (WHO) launched a global initiative called *T3: Test. Treat. Track*, urging the global malaria community to scale up diagnostic testing, treatment and surveillance for malaria. Current malaria diagnostic methods used in most endemic countries do not rapidly and accurately detect asymptomatic infections which also contribute significantly to transmission. Polymerase chain reaction (PCR) methods accurately diagnose sub-microscopic infections but are not field-deployable. To address this handicap, we report the development, evaluation and comparison of two isothermal amplification method for detection of *Plasmodium falciparum.*

**Methods & Materials**: Primers were designed form a highly conserved region of approximately 1.5 kb containing genes coding for several ribosomal proteins (including LSU rRNA and SufB), on the complete apicoplast genome sequences of *P. falciparum* from 15 Gambian isolates and 8 laboratory clones, aligned against the PlasmoDB reference sequence (ID: emb|X95275.2|). The detection limit of each method was determined using ten-fold serial dilution of DNA from *P. falciparum* 3D7 clone. Assay sensitivity and specificity will be determined by screening 300 archived DNA samples with varying parasite densities from both laboratory and field isolates, using PCR as the 'gold standard' or reference method.

**Results**: Preliminary results showed that the detection limit of both tHDA and LAMP were comparable to the reference method, consistently detecting < 2parasites/μl.

**Conclusion**: Based on the preliminary results, the novel isothermal amplification techniques (LAMP and tHDA) showed comparable detection limits to standard PCR, detecting < 2parasites/μl. Being easily field-adaptable, without need for thermocycling equipment, these assays could facilitate targeted interventions towards malaria control and elimination

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