

Project Report

Project Title: Molecular epidemiology of emerging infectious agent with special reference to bovine leukemia virus in Haryana

Project Number: RKVY 4033 C (g) ABT- 90A

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Bovine leukemia virus (BLV) is an exogenous retrovirus and one of the most common infectious viruses of cattle and buffalo with a worldwide distribution. BLV is the casual agent of enzootic bovine leukemia. Because BLV infection affects the immune system of cattle and buffalo its impact on herd health and economy could be more extensive than direct loss from death following lymphomas.

A significant sero-prevalence of BLV (~28%) was reported in Haryana in 1986. Since then no work has been done so far. Thus, BLV infection in cattle and buffalo should not be ignored neither by the farmers, breeders and their organizations, nor by the national/state authorities responsible for animal health. Keeping in view the importance of the disease, following objectives were planned for the project:

1. Development of rapid and sensitive molecular tools for identification of BLV from diverse biological samples.
2. Screening of the suspected animals (cattle and buffaloes) having mastitis or metritis or reproductive disorder like repeat breeding for BLV infection using developed molecular tools.

Objective 1: Development of rapid and sensitive molecular tools for identification of BLV from diverse biological samples.

Outcome: Rapid and sensitive molecular tool for detection and identification of BLV from diverse biological samples has been developed. Developed molecular assay is capable to detect as low as 10 viral (BLV) particles present in biological sample.

NOTE: This is the first molecular assay developed so far in India for diagnosis of BLV

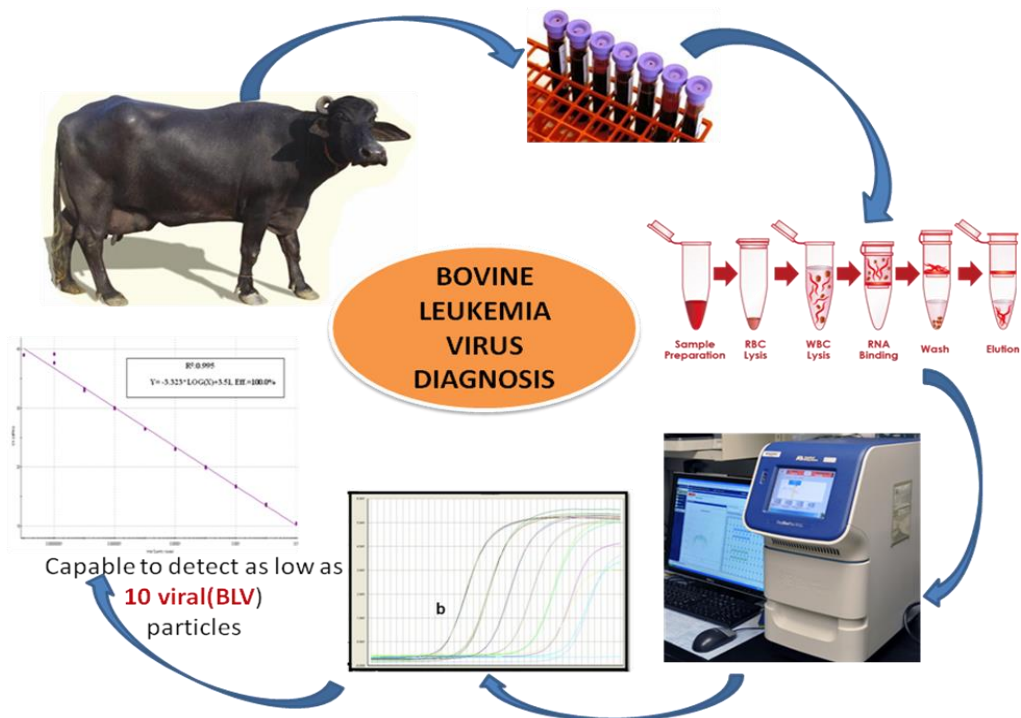


Fig.1: Flow chart showing methodology for detection of BLV

Objective 2: Screening of the suspected animals (cattle and buffaloes) having mastitis or metritis or reproductive disorder like repeat breeding for BLV infection using developed molecular tools.

Outcome: A total of 123 biological samples of buffaloes and cattle from different districts of Haryana were tested and none of the samples was found positive for BLV.

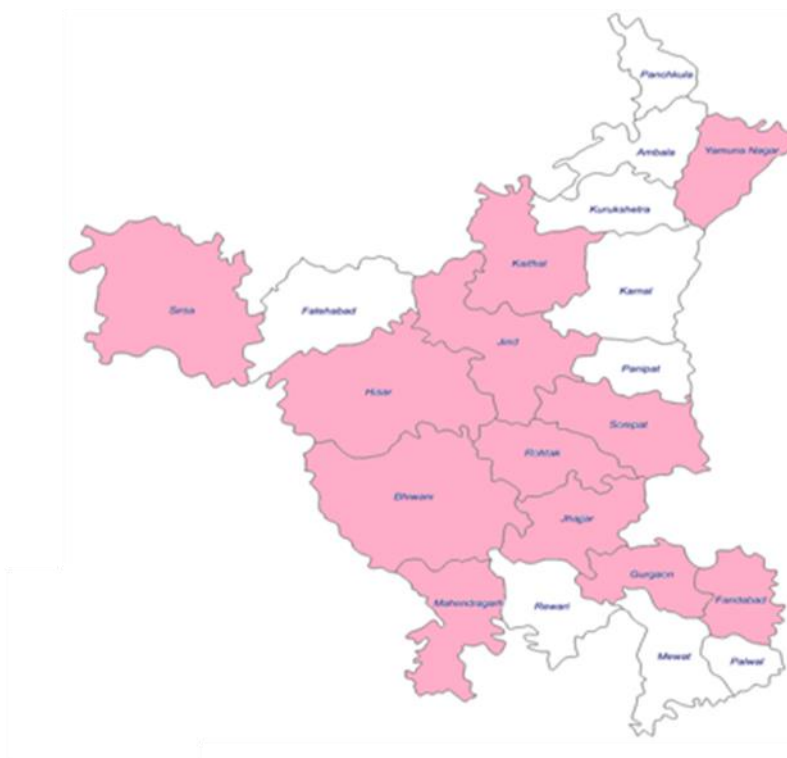


Fig.2: Map highlighting districts from which samples were tested

S.No.	Field Name	Details/Data
1	Project Name	“Molecular epidemiology of emerging infectious agent with special reference to bovine leukemia virus in Haryana”
2	Implementing department(s) in the State (Concerned administrative Department of the State)	Department of Animal Biotechnology, COVS LUVAS, Hisar
3	Area of operation of project (entire State, regions or specific district(s) as the case may be	Entire state of Haryana
4	Physical targets (specify physical target out of specified list in terms of crops/area etc.)	Random screening of biological samples of cattle and buffaloes of different districts of Haryana
5	Beneficiaries (specify number of beneficiaries in terms of gender, SC/ST, etc. on broad basis and also area/crop, etc. benefiting)	<ol style="list-style-type: none"> 1. Livestock farmers of different communities. 2. State Animal Husbandry Department and Livestock stakeholder.