AIMS & OBJECTIVES

STUDY OF POLYMORPHISMS IN A FEW LACTATION PATHWAY GENES IN CATTLE AND ITS ASSOCIATION WITH MILK PERFORMANCE TRAITS

Objectives

1. **In-silico identification of lactation pathway genes in cattle**: To identify the different pathways that take part during lactation in cattle, and subsequently find out the pool of lactation associated genes for determining gene markers, which may be utilized as genetic markers for milk production.

2. **Gene expression analysis by qPCR and selection of significant gene list**: To carry out gene expression of the probable milk production markers and find out the genes that exhibit significant increased expression at the time of lactation.

3. **Identification of functional domains and Discovery of SNP markers**: To identify functional domains in the gene markers responsible for milk production, and further to compare the gene polymorphisms in the four mammals namely cow (*Bos taurus*), chimpanzee (*Pan troglodytes*), sheep (*Ovis Aries*) and human (*Homo sapiens*).

4. **Annotation of markers for their functional relevance**: To annotate the markers that are responsible for the functional relevance of the markers that have been identified as milk production genetic markers.