

**Dr. Vivek Kumar Gupta**  
B V Sc & A H, M V Sc, Ph.D.  
Year of Birth: 1966  
Senior Scientist (Veterinary Microbiology)  
Division of Animal Health



### **Academic Background**

**Ph D (1997)** – Indian Veterinary Research Institute, Izatnagar  
**M V Sc (1991)** - Indian Veterinary Research Institute, Izatnagar  
**B V Sc & AH (1988)** - College of Veterinary Science and A H, Mathura UP

### **Areas of interest:**

Presently involved in research on molecular and immunological aspects of a dreaded disease of Goats i.e. Brucellosis.

### **Brucellosis Projects:**

1. NATP (CGP) sponsored research project entitled project “Development of nucleic acid (DNA) vaccine against brucellosis in goats”.(2002-2007)
2. ICAR Project: Control of brucellosis in goats by Molecular Diagnosis and Epidemiology (2007-2011).

Brucellosis is an important zoonoses. Brucellosis in goats caused by *Brucella melitensis* frequently result in abortions, still births and diminished levels of milk production. It is transmitted to human through either direct contact or aerosolization with infected animals or consumption of contaminated milk and meat products The objective of these research projects relate to the vision of the institute program to ensure animal health through improved detection and prevention of disease. The development of new vaccines, vaccine delivery systems, and diagnostic objectives relate to the Host/Pathogen Interactions, Pathogen Detection, Epidemiology of the Disease, and Disease Control Strategies. The project's objective is to identify genes of *Brucella melitensis*, which mediate protective immunity and may code for the antigens which can be used in immuno-assays for an early diagnosis of the disease.

### **Achievements so far:**

1. Five indigenous strain of *Brucella melitensis* from goats have been isolated and characterized.
2. An assay was developed that allows strains from single origins to be differentiated from other strains such that epidemiologic trace backs to identify the source of brucellosis infections may now be possible. This assay will be valuable in determining the source of a brucellosis infection in a goat flock and help in determining if a brucellosis outbreak is from single or multiple sources. (**Patent Application filed no. 2151/DEL/04; Bruchek: A Dot Elisa Kit for detection of Brucellosis in goats and sheep**).
3. An experimental DNA vaccine construct (pTargeTomp31) has been constructed. This experimental DNA vaccine provides protection to goats in a limited trial. Further work is on.
4. Developed PCR assays based on various body fluids and tissues for diagnosis of brucellosis in goats and sheep.

## Work experience:

Presently, a Senior Scientist (Veterinary Microbiology), Animal Health Division, Makhdoom,, Mathura (U.P.). He has over 14 years of research experience in the field of immunology and molecular biology. Dr. Gupta is specializes in diagnosis of various infectious diseases of small ruminants. He was instrumental in development of a dot-ELISA kit for diagnosis of caprine brucellosis. He has contributed significantly in diagnosis and control of Caprine and Ovine brucellosis. Dr. V.K.Gupta, a “Gold Medalist” from Veterinary College, Mathura (UP) and Ph.D. in immunology from Indian Veterinary Research Institute, Izatnagar, has published more than 60 research papers in various international and national journals. He has guided three Ph D and 14 M. Sc. students in the field of Immunology and Biotechnology.

## Ongoing project as Principal investigator:

XI/GH 2.3 -“Control of brucellosis in goats by Molecular Diagnosis and Epidemiology (2007-2011).”

## Professional membership:

- Indian Society for Veterinary Immunology and Biotechnology (ISVIB)
- Indian Society for Sheep and Goat Production and Utilization (ISSGPU)

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## Publications: Some important publications

S.N.	Title of paper	Journal and issue	Int'l Impact Factor
1.	<b>Gupta,V.K.</b> , Ram, G.C., and Bansal, M.P. (1994). Antigenic characterization of <i>Mycobacterium bovis</i> BCG soluble antigens.	Veterinary Microbiology 38:227-240.	2.010
2.	<b>Gupta, V.K.</b> ; Ram, G.C., and Bansal, M.P. (1994). Antigenic characterization of <i>Mycobacterium bovis</i> BCG culture filtrate.	Veterinary Microbiology 41:345-353.	2.010
1.	<b>Gupta V. K.</b> , Verma D K., Rout P.K., Singh S.V. and V. S. Vihan (2006) Polymerase chain reaction (PCR) for detection of <i>Brucella melitensis</i> in goat milk.	Small Ruminant Research. 65:79-84.	0.637
2.	<b>Gupta V. K.</b> , Verma D K., Singh K, Kumari R, Singh S.V. and V. S. Vihan (2006). Single-step PCR for detection of <i>Brucella melitensis</i> from tissue and blood of goats.	Small Ruminant Research. 66:169-174.	0.637
3.	<b>Gupta V. K.</b> , Verma D K., Singh S.V. and V. S. Vihan (2007) Serological diagnostic potential of recombinant outer membrane	Small Ruminant Research. 70:260-266	0.637

	protein (Omp31) from <i>Brucella melitensis</i> in goat and sheep brucellosis.		
4.	<b>Gupta V. K.</b> , P. K. Rout and V. S. Vihan, (2007) Induction of Immune Response in Mice with a DNA Vaccine Encoding Outer Membrane Protein (OMP31) of <i>Brucella melitensis</i> 16M.	Research in Veterinary Sciences. 87:305-313.	1.274
5.	Singh, S.V.; Singh,N.; <b>Gupta,V.K.</b> ; Shankar,H; Vihan,V.S.; Gupta,Vinod K.;and Tewari, H.A.(1998). Seroprevalence of brucellosis in few important goat breeds.	Small Ruminant Research. 1633:1-6.	0.637
6.	Singh, S.V., <b>Gupta, V.K.</b> and Singh, N. (2000). Comparative evaluation of a field based dot-ELISA kit, SAT, CFT and plate-ELISA for detection of <i>Brucella</i> antibodies in goats.	Tropical Animal Health and Production. 32(2000):155-163.	1.010
5.	Singh S V, Singh P K ,Singh A V, Sohal J S, <b>Gupta V K</b> and Vihan V S (2007) Comparative efficacy of an indigenous inactivated vaccine using highly pathogenic field strain of <i>Mycobacterium avium subspecies paratuberculosis</i> , Bison type with with commercial vaccine for the control of capri-paratuberculosis in India.	Vaccine 25: 7102-7110	3.159
6.	Singh S V, ,Singh A V, Singh P K , <b>Gupta V K</b> , Kumar S and J Vohra (2007). Seroprevalance of paratuberculosis in young kids using Bison type <i>Mycobacterium avium subspecies paratuberculosis</i> antigen in plate ELISA.	Small Ruminant Research. 70:89-92	0.637
7.	Sharma G, , Singh S V, Sevela I, Whittington R J, Juste R A, <b>Gupta V K</b> , Singh P K , Sohal J S and Vihan V S (2007). Juvenile Capri-paratuberculosis (JCP) in India; Incidence and characterization of by six tests.	Small Ruminant Research. 73:45-53	0.637
8.	Kumar P, Singh S V, Bhatia A K, Sevela I, Singh A V Whittington R J, Juste R A, Kumar S, <b>Gupta V K</b> , Singh P K , Sohal J S and Vihan V S (2007).Evaluation of indigenous milk ELISA with m-culture and m-PCR for the diagnosis of bovine Johne's disease in India in lactating Indian dairy cattle.	Research in Veterinary Sciences. 84:30-37	1.258
9.	Singh S V, ,Singh A V, Singh R, Sandhu K S,Singh P K, Sohal J S , <b>Gupta V K</b> , and Vihan V S (2007). Evaluation of highly sensitive indigenous milk ELISA kit with fecal culture, milk culture and fecal PCR for the diagnosis of bovine Johne;'s	Comparative Immunology Microbiology and Infectious diseases. 30:175-186	0.810

	Disease in India.		
10.	<b>Gupta V. K.</b> , Ranjeeta kumari, Deepak K. Verma, Kalpana Singh and S.V. Singh. (2006) Detection of <i>Brucella melitensis</i> from goat tissue employing PCR.	The Indian Journal of Animal Sciences 76:793-795.	0.100
11.	<b>Gupta V. K.</b> , Vohra, J, Kumari R, and V. S. Vihan (2008).A milk PCR-ELISA for diagnosis of brucellosis in goats.	The Indian Journal of Animal Sciences.78(8):797-800	0.100
12.	Gupta ,V.K., Rana R and Vihan, V.S. (2002). Dot-ELISA for detection of <i>Brucella melitensis</i> antibodies in goats.	Indian Journal of Animal Sciences 72(3):237-239.	0.100
13.	Gupta ,V.K., Rana R, Rana, N and Vihan, V.S. (2002). Enzyme-linked immunosorbent assay for detection of <i>Brucella melitensis</i> antibodies in goats.	Indian Journal of Animal Sciences.73(3).	0.100
14.	Gupta ,V.K., Rout, P.K., Chandrasekhar, T and Vihan, V.S. (2004). Induction of immune response in goats immunized with <i>Brucella melitensis</i> 16M DNA.	Indian Journal of Animal Sciences. 74:813-817.	0.100
15.	Gupta ,V.K., Rout, P.K., Chandrasekhar, T and Vihan, V.S. (2005). Induction of cytotoxic T cell response in goats immunized with <i>Brucella melitensis</i> 16M DNA.	Indian Journal of Animal Sciences. 75:168-171.	0.100