Immunomodulatory effects of Beta vulgaris (Sugar Beet) extract against experimentally induced Coccidiosis

Asghar Abbas, Ph.D, Pakistan (Departmnet of Pathobiology, MNS-University of Agriculture Multan, Pakistan)
*Muhammad Asif Raza, Ph.D Germany (Departmnet of Pathobiology, MNS-University of Agriculture Multan, Pakistan)
Rao Zahid Abbas , (Department of Parasitology, University of Agriculture Faisalabad)

Abstract (300 word limit)

Statement of the Problem:

Coccidiosis is an infectious disease chicken caused by *Eimeria* Parasite which have various .Different species of *Eimeria* cause heavy economic losses to poultry farming in Pakistan and different parts of word. Current study reports the phytochemical analysis and immunomodulatoryeffect of Beta vulgaris (root extract) against experimental coccidiosis in broiler chicken. High performance liquid chromatography was used to analyze and quantify the phenolic compounds of Bet vulgaris extractFor evaluation of immunomodulatory potential, atotal 175 day old broiler chicks were divided into five equal groups. Mixed Eimeriainfection was given orally at one week of age. At same age *Beta vulgaris* extract was orally given at 100, 200 and 300 mg/kg of body weight in first three groups respectively. Vitamin E and PBS treated chicks served as control groups.Cell mediated immunity was inquired through PHA-P, Carbon Clearance Assay and Dinitrochlorobenzene (DNCB) test. Humoral immunity was evaluated by hemagglutination test.Results of study showed that B. vulgaris extract treated groups showed higher cellular and humoral immune response against coccidiosis. Immunological response of groups administered with *Beta vulgaris* at highest dose i.e. 300 mg was higher as compared to lower dose and caused more positive effect on infected chicks.

Recent Publications (minimum 5)

1. Rahman A, K. Dharma. Q. Ali, M.A. Raza, U. Chaudhry, MZ Shabbir (2020) Foot and mouth disease in a wide range of wild hosts: a potential constraint in disease control efforts worldwide particularly in disease-endemic settings. Acta Tropica. 210: 105567.
2. Abbas A., RZ. Abbas, MK. Khan, M.A. Raza, M.S. Mahmood, MK. Saleemi, T. Hussain, JA. Khan, and Z.D. Sindhu (2019) Anticoccidial Effects of Trachyspermum ammi (Ajwain) in broiler chickens. Pak Vet J 39: 301-304.
3. Murtaza S, N. Ahmad , M.A. Raza , MS Akhtar , MM Ayaz, M. Ali M, R. Ahmed (2019). Ultrasonographic and Gross Pathological Studies on Testes and Epididymides of Rams and Bucks with Potential Lesions. Pak J Zoology, 51: 1911-1917.
4. Abbas A., RZ. Abbas, S. Masood, Z. Iqbal, M.K. Khan, M.K. Saleemi, M.A. Raza, M. S. Mahmood, J.A. Khan and Z.D. Sindhu, 2018. Acaricidal and insecticidal effects of essential oils against ectoparasites of veterinary importance. Bol Latinoam Caribe Plant Med Aromat 17: 441-452.
5. Aziz, A., F. Saqib, I.A. Khan, M.M. Ashraf, M.N. Ashraf, and M.A. Raza. 2018. Dermatological Evaluation of Anti-Irritant and Anti-Inflammatory Effect of Plumerin-R Isolated from the Latex of Plumeriarubra Linn. Latin Americon J of Phram.37: 317-320.



Biography (150 word limit)

Prof. Dr. Muhammad Asif Raza is working as Dean Faculty of Veterinary and Animal Sciences, MNS-University of agriculture Multan, Pakistan. He has expertise in Parasitology, Public Health and Drug Development against Parasitic Diseases of Public Health and Veterinary Importance.

Corresponding Email: asif.raza@mnsuam.edu.pk

Presenting author details
Full name: Prof. Dr. Muhammad Asif Raza
Contact number:+923335552614
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