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BIV-81

TH1/TH2 IMBALANCE INDUCED BY CHRONIC STRESS EXPOSITION IS RELATED TO DIFFERENT VULNERABILITY TO STRESS EFFECTS IN BALB/C AND C57BL/6 MICE.

Palumbo ML., Canzobre MC., Ríos H., Wald M., Genaro AM.

CEFYBO-CONICET-UBA and Instituto de Biología Celular y Neurociencias, Fac. Medicina, UBA. *Paraguay 2155, Piso 15, Bs As, Argentina. E-mail: molecula_21@yahoo.com.ar*

Stress has been related to cognitive deficit. The hippocampus, a limbic area involved in learning and memory, is particularly sensitive to the stress effects. Cytokines have been shown to affect some behaviours, including effects on sleep, appetite, sexual behavioural, memory and motor activity. Moreover, IL-2, INF-γ (TH1-cytokines) and IL-6 (TH2-cytokines) has been implicated in psychiatric disorders. The aim of the present work was to analyze the correlation between the cytokine production and behavioural alteration induced by stress in Th1-biased C57BL/6 and Th2-biased BALB/c mice. We found that BALB/c but not C57BL/6 mice exposed to chronic stress had a poor learning performance respect to control mice. Histological studies showed that the number of neurons and the thickness in the area CA1 y CA3 of hippocampus were lower in stressed BALB/c but not in stressed C57BL/6 mice respect to control. Moreover, an increase in ROS production was observed in BALB/c but not in C57BL/6 mice under stress. Finally, we found an increase of INF-γ and IL-2 in stressed C57BL/6 mice and a decrease of INF-γ and an increase of IL-6 in stressed BALB/c mice. These results indicate that BALB/c mice are more vulnerable to stress effects than C57BL/6 mice associated to a differential regulation of TH1/ TH2 cytokine balance.

BIV-82

TRANSFORMING GROWTH FACTOR β STIMULATES BOVINE LEUKEMIA VIRUS EXPRESSION IN NATURALLY INFECTED CELLS

Gutiérrez S., Juliarena M., Ceriani C., Esteban E.

Laboratorio de Virología, Fac de Cs Veterinarias, UNCPBA. Pinto 399, Tandil, Argentina.CONICET E-mail: segutier@vet.unicen.edu.ar

Fetal calf serum (FCS) and platelet extracts (PE) have been shown to stimulate Bovine Leukemia Virus (BLV) expression in a naturally infected cell line (NBC-10) as well as in primary cultures of bovine peripheral blood mononuclear cells (PBMC). In order to identify the platelet factor responsible for this stimulation we have tested the activity of several recombinant or highly purified platelet factors on the expression of BLV in NBC-10 cells. The 3 mammalian isoforms of transforming growth factor-β (TGF-β) stimulated the synthesis of the major core BLV protein (BLVp24) in a dose dependent manner. Anti TGF-β antibodies neutralized the effect of FCS and PE on the synthesis of BLVp24 in NBC-10 cells. Recombinant TGF-β also stimulated the synthesis of BLVp24 in 24 hr cultures of BLV infected PBMC. It is concluded that TGF-β is the main factor involved in the in vitro activation of BLV expression induced by FCS and PE in NBC-10 cells. The bioassay employing NBC-10 cells as indicator system proved to be useful for the identification of substances regulating the expression of BLV.

BIV-83

BLOOD CELLS PACKETS, FABRICIUS BURSA AND SPLEEN IN BROILER CHICKENS WITH TWO DIETS.

Sandoval GL[2], Revidatti FA[1], Terraes JC[1], De Biasio MB[2], Romero CR[2].

Dptos. Cs. Básicas[2] y Producción[1], Fac. de Cs. Veterinarias, Univ. Nac. del Nordeste, *Sgto Cabral 2139, 3400, Corrientes (Cap), Argentina. E-mail: bioquim@vet.unne.edu.ar*

Males (M) and females (H) Broiler chickens (considered as separate blocks) were raised indoor (six birds per m^2). Two cycles of production of 49 and of 56 days (for M and H respectively) were carried out, each divided in two stages: beginning (0 to 21 days) and fattening (21 days to end). Two treatments with seven (M) and eight (H) replicas each one were applied. They consisted in qualitative - quantitative different diets called broiler feed (P) and fodder feed (F). The samplings took place at the end of each stage. Analysis of repeated measures were applied with a significance level of 5% (Statistix program for Windows). At slaughter, the corporal weight (PC), the relative proportion of spleen and Fabrizius bursa were not different between blocks, nor between treatments. Differences were found between blocks` haematocrites ($p<0,05$). The total leukocyte fraction did not demonstrate significant variations, only insinuated a tendency in favor of H at slaughter ($p=0,09$). These two variables showed higher values in H, probably due to the different circumstances of slaughter. Both formulations gave similar results, consequently the election of one of them, will depend on the evaluation of other indicators such as the economic ones.

BIV-84

ATTENUATED *SALMONELLA* AS ADJUVANT IN CANCER VACCINES

Vendrell A, Di Sciullo P, Gravisaco M.J, Colman E, Rizzo N, Mongini C, Waldner C.

CEFYBO, CONICET-UBA. Paraguay 2155, P16 (CP 1121). Buenos Aires. E- mail: avendrell@fvet.uba.ar.

The role of innate immunity in stimulating adaptive immune responses is the basis of the action of adjuvants which are useful in clinical vaccines by promoting a nonspecific pro-inflammatory response to elicit specific host defense.

Based on previous studies that demonstrated the ability of *Salmonella* to elicit an inflammatory Th1 response when it is inoculated by mucosal route, we propose to study the use of an attenuated *Salmonella* strain as an adjuvant in cancer vaccines to stimulate the innate and modulate the adaptive immune response against tumors. Two times at seven days intervals BALB/c mice were immunized via the orogastric route with $2x10^9$ UFC of CVD915 or PBS (control) using a gavage tube needle, and simultaneously, $1x10^6$ irradiated LBC tumor cells (LBCi) or PBS were inoculated by intraperitoneal (i.p) injection. Seven days after the second immunization, all groups of animals were challenged i.p with wild-type LBC cells. Mice immunized with bacteria simultaneously with LBCi display a significant increase in the medium survival time respect to PBS-treated mice ($p < 0.05$, Log rank test).

Our findings suggest that immunization with *Salmonella* in combination with irradiated tumor cells could be a useful strategy for prophylactic vaccination that merits further studies to prove its potential in cancer vaccines.