**1049** POSTER

**LTX-315 confers long term protection in mice re-challenged with murine A20 B-cell lymphoma or murine CT26WT colon carcinoma cells after complete tumour regression following initial treatment**

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**Background:** LTX-315 (Oncopore®) is a nonapeptide in development for local treatment of tumours. LTX-315 binds to over-expressed, negatively charged, molecules on the surface of tumour cells, where it induces lysis and cell death. LTX-315 is administered via intra-tumoural injection. The present study sought to investigate tumour growth in animals that had previously shown complete tumour regression following treatment with LTX-315
**Materials and Methods:** Initial studies in syngenic models of A20 B-cell lymphoma and CT26WT colon carcinoma were conducted in female Balb/c mice. Tumours were induced following injection of 5 million cells in 50 μL subcutaneously, on the abdominal surface. Once tumours had reached 20 $mm^2$, mice were treated with LTX-315 or vehicle (0.9% NaCl in sterile $H_2O$) via intra-tumoural injection, once daily for 3 days. Animals were observed for anti-tumour response and relapse after treatment.
Mice from these studies, that demonstrated complete tumour regression following treatment with LTX-315, were re-inoculated with either murine A20 B-cell lymphoma cells (n = 4) or CT26WT colon carcinoma cells (n = 9) six weeks following initial treatment with LTX-315. Tumour growth was monitored for up to 36 days following re-inoculation.
**Results:** Significant inhibition ($P < 0.006$) of tumour growth was observed in all 4 mice re-inoculated with A20 B-cell lymphoma compared with control animals, and while relapse was seen in 1 animal, 3 weeks later, complete tumour regression was observed in the other 3 mice. In 9 mice re-inoculated with CT26WT colon carcinoma, inhibition (P 0.01) of tumour growth was observed in comparison with control animals. Inhibition was observed in 7 mice and complete regression in 2 of the animals
**Conclusions:** These data suggest that complete tumour regression following initial treatment of solid murine tumours (murine A20 B-cell lymphoma or CT26WT colon carcinoma) with LTX-315 resulted in a form of endogenous long-term protection against further growth of the same tumours following re-inoculation. Inhibition of tumour growth was more pronounced in animals bearing A20 B-cell lymphoma tumours when compared with animals bearing CT26WT colon tumours.

**1050** POSTER

**Induction of an anti-cancer immune response following vaccination of mice with LTX-315 lysed tumour cells**

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**Background:** LTX-315 (Oncopore®) is a nonapeptide in development for local treatment of tumours. LTX-315 binds to over-expressed, negatively charged, molecules on the surface of tumour cells, where it induces lysis and cell death. Prior work has demonstrated that treatment of solid murine tumours (murine A20 B-cell lymphoma or CT26WT colon carcinoma) with LTX-315 resulted in a form of endogenous long-term protection against further growth of the same tumours following re-inoculation. The present study sought to investigate the anti-cancer effect of prophylactic vaccination with murine A20 B-cell lymphoma cells lysed by LTX-315 in combination with LTX-315 as an adjuvant.
**Materials and Methods:** Murine A20 B-cell lymphoma cells were mixed with LTX-315 and left for 30 minutes to allow cell lysis. The cell-peptide mix was then injected into Balb-c mice, with or without an adjuvant injection of LTX-315. Six weeks later the treated mice, plus a control group, were injected with viable A20 cells. The animals were followed until a maximum tumour volume of 125 $mm^2$ was reached. Four treatment regimens were used:
Regimen 1: Single subcutaneous injection of lysate containing $5 \times 10^6$ A20 lymphoma cells and 10 mg/ml LTX-315
Regimen 2: 20 mg/ml LTX-315 subcutaneous injection followed by injection of lysate containing $5 \times 10^6$ A20 lymphoma cells
Regimen 3: Single subcutaneous injection of lysate containing $10 \times 10^6$ A20 lymphoma cells and 10 mg/ml LTX-315
Regimen 4: 20 mg/ml LTX-315 subcutaneous injection followed by injection of lysate containing $10 \times 10^6$ A20 lymphoma cells
Six weeks later all groups plus a control group were injected with $5 \times 10^6$ viable A20 lymphoma cells in a volume of 50 μl at a different abdominal site than the tumor lysate was injected.
**Results:** Tumour development was slower in the treated groups compared to the controls and complete regression of initially developing tumours was observed in some treated animals. Macroscopically there were morphological differences between the treated groups and the control group. The developing tumours in the treated mice were observed to be whiter and harder than the tumours observed in the control group.
**Conclusions:** The results indicate that an anti-cancer immune response was induced by the vaccination with LTX-315 lysed A20 B-cell lymphoma cells.

**1051** POSTER

**Protection against murine A20 B-cell lymphoma tumour re-growth can be passively transferred to untreated naïve mice via splenocytes from donors previously treated with LTX-315**

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**Background:** LTX-315 (Oncopore®) is a nonapeptide in development for local treatment of tumours. LTX-315 has a lytic mode of action, binding to over-expressed, negatively charged, molecules on the surface of tumour cells, where it induces lysis and cell death. LTX-315 is administered via intra-tumoural injection. This study was undertaken to investigate whether protection against tumour re-growth observed in animals previously treated with LTX-315 could be passively transferred to naïve, irradiated recipients via spleen cells taken from LTX-315-treated donor animals.
**Materials and Methods:** A20 B-cell lymphoma tumours were induced in female Balb/c mice by injecting 5 million cells in 50 μL subcutaneously on the abdominal surface. Once tumours had reached 20 $mm^2$, mice were treated with LTX-315 (20 mg/ml) or vehicle (0.9% NaCl in sterile $H_2O$) via intra-tumoural injection, once daily for 3 days. Spleens from mice that demonstrated complete tumour regression were excised and freshly isolated splenocytes were injected ($20 \times 10^6$ per 100 μl) into irradiated naïve recipient mice via the tail vein. Control mice received isolated splenocytes from untreated naive mice. 24 h later recipient mice were inoculated with 5 million murine A20 B-cell lymphoma cells as previously described and tumour growth was monitored for up to 26 days.
**Results:** Inhibition of tumour growth was observed in irradiated mice that received splenocytes isolated from animals that had shown complete tumour regression following treatment with LTX-315 when compared with control animals. A difference in the colour and texture of the tumours in these recipient mice was also noted, suggesting the occurrence of an immediate inflammatory response.
**Conclusions:** Inhibition of tumour growth in irradiated naive animals that received splenocytes from LTX-315-treated donors with complete regression of A20 B-cell lymphomas indicates that protection against tumour growth, conferred by LTX-315 treatment, is T-cell dependent and is passively transferrable. It is suggested that protection occurs via effective antigen presentation for T-cells and the subsequent development of a specific adaptive immune response.

**1052** POSTER

**Development and efficiency of lactobacillus drugs for cancer treatment**

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**Background:** In recent years, *Lactobacillus* have been studied for the creation of immunomodulating drugs. The main immunoactive structural components of these cells (muramyl peptides) act as PAMPs and activates the corresponding receptors of innate immunity. In our previous studies low toxicity and weak antitumor and antimetastatic effects of muramyl peptides and DNA fragments complex from probiotic strain *Lactobacillus rhamnosus* V (Del-Immune V®) and N-acetylglucosaminyl-β (1−4)N-acetylmuramyl pentapeptides from probiotic strain *Lactobacillus delbrueckii* subsp. bulgaricus LB86 VCIM-B-5788 (Liasten) has been shown *in vivo*. Clinical trials of these compounds in complex treatment of stage II-III breast cancer patients showed decrease of hematological complications and higher survival rate.
**Materials and Methods:** We studied the effect of these compounds at 20 stage II-III Hodgkin's and stage II-IV non-Hodgkin's disease, 30 stage II-IV lung cancer (LC) and mesothelioma patients. Liasten was prescribed