Plumbline Life Sciences

Novel DNA Therapeutics

PLS-D5000

Cancer Immunotherapies For Companion Animals

PLS-D5000

Product Description

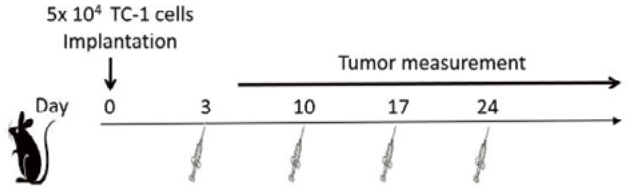
Plumbline Life Sciences, Inc. is developing a novel immunotherapeutic DNA plasmid encoding synthetic consensus dog telomerase reverse transcriptase (dTERT). DNA vaccines, plasmids containing the coding sequences for tumor antigens, represent unparalleled precision and design flexibility for targeting tumor antigens and selectively stimulating components of the cell mediated immune system.

Product Mechanism

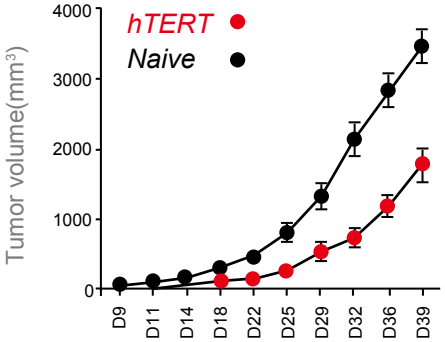
Telomerase reverse transcriptase (TERT), a catalytic subunit of telomerase, is highly expressed in more than 90% of dog tumors from diverse cancer phenotypes, with little or no expression in normal somatic cells. Telomerase activation/TERT expression is associated with little loss of telomere length and accounts for the unlimited proliferative capacity of cancer cells. TERT, through a feed-forward regulatory loop mechanism underlying TERT activation in cancers, acts as a transcriptional modulator of oncogenic signaling pathways that sustain its own levels and control the induction of target genes critical for tumor cell survival and proliferation. Loss of telomerase activity leads to TERT-positive tumor cell death by apoptosis. Taken together, TERT is an attractive tumor associated antigen that may provide the basis of developing TERT-based universal vaccine for cancer immunotherapy

The inhibition of tumor growth and the increase of survival rate in mice treated with hTERT

1. Effective Cancer Therapeutic Results

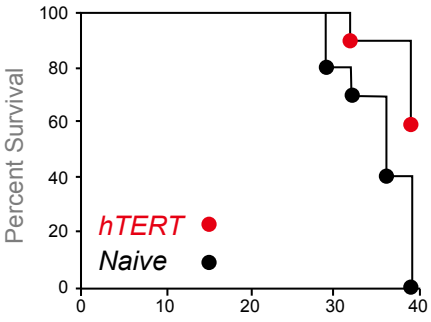


Tumor volume



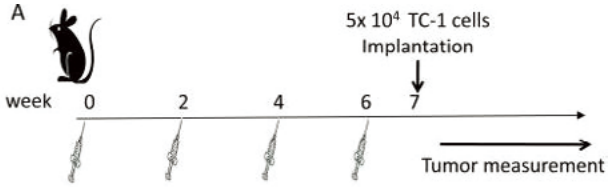
Days after TC-1 implantation

Survival rate

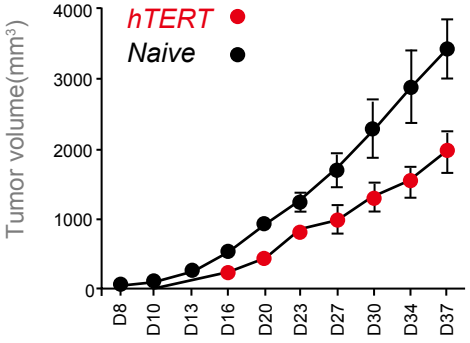


Days after TC-1 implantation

2. Effective Cancer Preventive Results

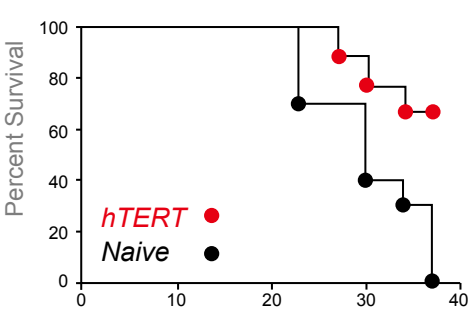


Tumor volume



Days after TC-1 implantation

Survival rate



Days after TC-1 implantation

Jian Yan, *Cancer Immunology Research*, (2013)

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