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NKTR-214: A long-acting, engineered immunotherapy shows excellent therapeutic efficacy in multiple syngeneic mouse tumor models both alone and in combination with checkpoint inhibition

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Cytokine-based immunotherapy has been successful for the treatment of cancer with potential for durable responses in a variety of indications. One approach for stimulating the immune system is to target the heterotrimeric interleukin 2 receptor; IL 2R.NKTR-214 is a uniquely transformed IL-2 that is shown to be differentiated from the parent IL-2 by its in vitro and in vivo activities. NKTR-214 uses polymer technology to alter receptor subunit selectivity to favor expansion of CD8+ memory effector T cells (CD8T) over CD4+ regulatory T cells (Treg) in the tumor. In addition, polymer technology improves exposure and enhances tumor localization, thereby resulting in significantly improved efficacy, modulated toxicity and flexible dosing regimens in the tested models. These unique properties of NKTR-214 enable substantial efficacy as a single agent in an aggressive mouse melanoma model and in other syngeneic tumor models. In addition, NKTR-214 shows synergy in combination with the checkpoint inhibitor, anti-CTLA4 antibody, in mouse breast and colon tumors. NKTR-214 is a highly differentiated cytokine with a new mechanism of action that may provide new options for cancer immunotherapy. IND-enabling studies are ongoing.

Biography

Murali Addepalli is responsible for leading and managing Pharmacology group at Nektar India in alignment with global discovery teams leading to strengthen of product pipeline. Dr. Addepalli has joined Nektar in 2010 and brings with him more than 14 years of experience in various therapeutic areas which include oncology, pain and inflammation. Prior to joining Nektar he was associated with leading pharmaceutical organizations such as Reliance Life Sciences and Biocon Bristol Meyers. Dr. Addepalli was a founder director of IBC (Innovative Biotech Consultants Pvt. Ltd., Singapore). He is member of various international bodies aimed at cancer prevention and cure. Dr. Addepalli received his M.Sc. from University of Hyderabad (Hyderabad), and Ph.D from University of Nagasaki (Japan). Also he was awarded visiting Fellow at NIDDK, NIH (Bethesda, USA) in the field of centrosome biology. Dr. Addepalli has numerous patents (USA, Europe and India) and publications to his credit. Presented many abstracts at various international scientific meetings and received honors to his distinguished career.

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