New immunomodulatory targets and next generation active immune checkpoint control immunotherapy

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Challenges remain in expanding the target space, developing next-generation active immune immunotherapy with improved efficacy and safety. This presentation focuses the leading immunomodulatory pathways as well as therapeutic targets we have identified in B7 superfamily members: B7-H1 (PD-L1) B7-H2, B7-H3 and B7-H4, TNF ligands and receptor superfamily: Blys, DR3, DR4, DR5, DR6, GITR, GITRL, TR2, LIGHT, TR6, TL1A, RANK, TNFRSF19, RELT, TR1, DcR1and DcR2 Siglecs family: Siglec 5, 7, 8, 9, 10, 11,and Galectin family: Galectin 9,10, 11, 12. The abnormal expression of galectins is known to be linked to the development, progression and metastasis of cancers. tumor-derived galectins can have bifunctional effects on tumor and immune cells. This talk focuses on the biological effects of galectin-1, galectin-3 and galectin-9 in various cancers and discusses anticancer therapies that target these molecules. Siglecs comprise a family of 15 members of sialic acid-binding receptors. Many Siglecs function as inhibitory receptors on innate and adaptive immune cells and may contribute to the attenuation of immune responses to tumors. Siglecs are mostly inhibitory receptors similar to known immune checkpoints including PD-1 or CTLA-4 that are successfully targeted with blocking antibodies for cancer immunotherapy.

The next generation active immune checkpoint control immunotherapy which based on a Specific Total Immune Remodeler Platform demonstrate the ability to activate and use the full potential of the patient's own immune system to eradicate cancer and is able to induce the killing of tumor target expressing cells by simultaneously activating all possible immunological pathways (humoral and cellular), thus, succeed in controlling all the relevant immune checkpoints that prevent the immune system from attacking and defeating cancer.

Biography

Jian Ni obtained his M.D. from Second Military Medical University and Ph.D. from University of Cambridge. Ni was a Post-doctoral Fellow at the National Cancer Institute and University of California, Irvine. He is an American Society of Clinical pathologists board certified Specialist in Immunology. Ni was a Senior Scientist of Human Genome Sciences, Inc., and has many years of experience in biomedical research, immunology, oncology and protein chemistry, and industrial experience in functional genomics, therapeutic protein and antibodies discovery and development.

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