



Multimeric

Multimeric Biotherapeutics, Inc.

Cancer treatment using CD40 ligand highlighted in scientific journal edited by Multimeric's Chief Scientific Officer

July 23, 2012, La Jolla, CA –Multimeric Biotherapeutics, Inc. (Multimeric), an innovative vaccine company based in San Diego, announced the publication of four papers reviewing the status of CD40 ligand (CD40L) in cancer immunotherapy. These papers appeared in an issue of *International Reviews of Immunology* (Adrian Bot, Executive Editor). The Guest Editor for this special issue was Richard Kornbluth, MD, PhD, Multimeric's scientific founder and Chief Scientific Officer.

Taken together, these reviews help establish CD40 stimulation as a new frontier for stimulating natural immune cells to eradicate cancer. This follows the report of a 2007 National Cancer Institute Immunotherapy Agent Workshop that gave the CD40L/CD40 system its highest priority as a co-stimulatory molecule and overall ranked it fourth (behind IL-15, anti-PD-1/anti-PD-L1, and IL-12] as a molecule with "high potential" for treating cancer.

As part of the special issue, Dr. Kornbluth reviewed the design of soluble CD40L, highlighting the importance of Multimeric's patented technology. This paper also describes the use of MegaCD40L™ and UltraCD40L™ to grow human B cells as a new, easily generated type of antigen-presenting cell (APC) for the adoptive cell therapy (ACT) of cancer.

The full reference for Dr. Kornbluth's paper is: R.S. Kornbluth, M. Stempniak, G.W. Stone. Design of CD40 Agonists and their use in growing B cells for cancer immunotherapy. *Int Rev Immunol* 31(4):279-288, 2012. <http://www.ncbi.nlm.nih.gov/pubmed/22804572>

About the MegaLigands™: The term MegaLigands™ refers to 2-trimer forms of the TNFSF ligands produced by fusing the extracellular domains of any of the 19 members of the TNF SuperFamily with a scaffold protein consisting of the body of ACRP30 (adiponectin). The following molecules are currently sold by third parties as purified proteins for laboratory use: MegaCD40L™; MegaTNF™; MegaOX40L™; and MegaAPRIL™. MegaCD40L™ in particular has been used extensively by academic investigators as a vaccine adjuvant and cancer immunotherapy agent.

About the UltraLigands™: The term UltraLigands™ refers to 4-trimer forms of the TNFSF ligands produced by fusing the extracellular domains of any of the 19 members of the TNF SuperFamily with a scaffold protein consisting of the body of surfactant protein D (SP-D). UltraCD40L™ has been shown to be a powerful adjuvant for DNA vaccines as well as an effective cancer immunotherapy in mouse models. A recently published study in the journal *Vaccine* demonstrated the versatility of this platform technology by reporting applications for the following UltraLigands™ as adjuvants for DNA vaccines: UltraCD40L™; UltraGITRL™; Ultra4-1BBL™; UltraOX40L™; UltraRANKL™; UltraLIGHT™; UltraCD70™; and UltraBAFF™.

About Multimeric: Multimeric Biotherapeutics, Inc., a Delaware C corporation, was spun out of technology developed by Dr. Richard Kornbluth when he was at the University of California San Diego. Multimeric's lead products include immunotherapy protocols for cancer and vaccines against chronic viral infections. The company is privately held and is supported by its founders, angel investors, and NIH grants. It has offices in La Jolla, CA and laboratories at the San Diego Science Center in San Diego, CA. For more information, please refer to www.multimericbio.com