Caprion Co-authors NATURE COMMUNICATIONS Publication Revealing Predictive Biomarkers of Response to HBV Vaccines

The Study Highlights the Identification of a Whole Blood Phenotypic and Transcriptional Signature Predictive of the HBV Vaccine Hypo-response

Montreal, Canada – January 26, 2016— Caprion Biosciences announced today the publication of results from studies conducted using its ImmuneCarta® flow cytometry technologies which identified potential baseline predictors and mechanisms of response to the HBV vaccine. The article, entitled "Pre-vaccination inflammation and B-cell signaling predict age-related hypo-response to hepatitis B vaccination", was published in the January 8, 2016 issue of NATURE COMMUNICATIONS and was led by Rafick-Pierre Sekaly from University Hospitals of Cleveland and Case Western Reserve University, includes several Caprion co-authors as well as scientific collaborators from Merck Research Laboratories and from the Vaccine and Gene Therapy Institute of Florida.

The results of the study suggest that heightened expression of genes that augment B-cell responses and higher memory B-cell frequencies before vaccination were correlated with stronger responses to the Hepatitis B vaccine. In contrast, higher levels of inflammatory response transcripts pre-vaccination and increased frequencies of pro-inflammatory innate cells were correlated with weaker responses to the vaccine. These findings seem to fit well with the "inflammaging" hypothesis stating that low-grade, chronic inflammation is a significant risk factor associated with morbidity and mortality in the elderly.

As the number of elderly individuals increases worldwide, the importance of effective prevention programs to curb severe infections in this population is ever more pressing. Although vaccination offers a proven approach for such prevention, age-related vaccine hypo-responses may reduce their potential benefits. These results pave the way for further studies designed to understand the cellular and molecular mechanisms of the immune hypo-response, which may contribute to the development of novel immunotherapies aimed at overcoming the immunesenescent state associated with aging.

Martin LeBlanc, CEO of Caprion, stated, "We are very pleased to have participated in this collaborative study that yielded this high impact publication. These results provide another tangible illustration of Caprion's ImmuneCarta platform ability to deliver valuable immunological insights and predictive biomarkers of response to immuno-therapies."

About Caprion Biosciences, Inc.
Caprion is the leading provider of proteomics and immune monitoring services to the pharmaceutical and biotechnology industry. Its immune monitoring business unit, ImmuneCarta®, offers proprietary multiparametric flow cytometry for functional analyses of innate and adaptive immune responses. Caprion's proteomics business unit, ProteoCarta™, offers proprietary gel-free, label-free mass spectrometry (MS) for comprehensive, quantitative and robust comparative measurement of proteins

across large sets of biological samples for the discovery and validation of protein biomarkers. Caprion also leverages ProteoCarta and ImmuneCarta to develop its own in-vitro diagnostic products targeting cancer, metabolic and infectious diseases. Based in Montreal, Canada, Caprion has been providing large-scale proteomics and immune monitoring services to over 50 major pharmaceutical and biotech clients for more than 12 years. Caprion, a privately-held company, is majority owned by Chicago Growth Partners. For more information, please visit www.caprion.com.

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