

GigaGen Publishes Research Describing Potential New Avenues to Overcome Resistance to anti-PD-L1 Therapies

South San Francisco, Calif., May 25, 2021 (GLOBE NEWSWIRE) -- [GigaGen Inc.](#), a biotechnology company advancing transformative antibody drugs for infectious diseases, transplant rejection and checkpoint resistant cancers, and a subsidiary of [Grifols](#), announced today publication of research, titled, "[Single cell transcriptomics reveals the effect of PD-L1/TGF- \$\beta\$ blockade on the tumor microenvironment](#)," in the peer-reviewed journal *BMC Biology*. The preclinical data describes potential new avenues to overcome resistance to anti-PD-L1 therapies.

"A major goal in oncology is to find strategies that enhance the infiltration of immune T cells in the tumor to improve efficacy of therapies, while reducing resistance and toxic effects," said Erica Stone, Ph.D., vice president of Oncology at GigaGen and author of the study. "Our preclinical data shed light on the molecular mechanisms of existing cancer immunotherapies, such as anti-PD-L1 and/or anti-TGF- β therapy, and hints at potential new targets and novel therapeutic approaches for overcoming resistance to anti-PD-L1 oncology therapies."

David Johnson, Ph.D., co-founder and chief executive officer of GigaGen, added, "Our team continues to make great progress at characterizing diverse drug resistance mechanisms and translating our findings into a pipeline of novel drug candidates with differentiated anti-tumor mechanisms. In addition to our bi-specific anti-PD-L1 x anti-TGF- β antibody, which enhances immune cell infiltration into the tumor, we are advancing a third generation anti-CTLA-4 monoclonal antibody, GIGA-564. GIGA-564 is designed to regulate immune response specifically in the tumor microenvironment, with potential to provide superior efficacy and reduced toxicity."

Using GigaGen's Magnify platform, the study evaluated molecular changes at the single cell level within the tumor microenvironment in a preclinical cancer model after treatment with anti-PD-L1 and/or anti-TGF- β . The analysis was complemented with *in vivo* testing to evaluate the potential antitumor activity of a newly discovered target, chemokine CCL5.

Key study highlights include:

- PD-L1 and/or TGF- β blockade led to an increased expression of genes responsible for recruiting cytotoxic lymphocytes (immune cells involved in tumor destruction) including multiple chemokines such as CCL5
- PD-L1 and TGF- β blockade led to reduction of proteins that contribute to the formation of an extracellular matrix around the tumor which impedes the infiltration of immune cells in the tumor
- The therapeutic delivery of a chemokine in *in vivo* mouse models increased infiltration of cytotoxic lymphocytes in the tumor and, in combination with anti-PD-L1, reduction of tumor size
- The data highlights the therapeutic potential of CCL5 plus anti-PD-L1 treatment

About Grifols

Grifols is a global healthcare company founded in Barcelona in 1909 committed to improving the health and well-being of people around the world. Its four divisions – Bioscience, Diagnostic, Hospital and Bio Supplies – develop, produce and market innovative solutions and services that are sold in more than 100 countries.

Pioneers in the plasma industry, Grifols operates a growing network of donation centers worldwide. It transforms collected plasma into essential medicines to treat chronic, rare and, at times, life-threatening conditions. As a recognized leader in transfusion medicine, Grifols also offers a comprehensive portfolio of solutions designed to enhance safety from donation to transfusion. In addition, the company supplies tools, information and services that enable hospitals, pharmacies and healthcare professionals to efficiently deliver expert medical care.

Grifols, with nearly 24,000 employees in more than 30 countries and regions, is committed to a sustainable business model that sets the standard for continuous innovation, quality, safety and ethical leadership.

In 2020, Grifols' economic impact in its core countries of operation was EUR 7.5 billion. The company also generated 140,000 jobs, including indirect and induced.

The company's class A shares are listed on the Spanish Stock Exchange, where they are part of the Ibex-35 (MCE:GRF). Grifols non-voting class B shares are listed on the Mercado Continuo (MCE:GRF.P) and on the U.S. NASDAQ through ADRs (NASDAQ:[GRFS](#)).

GigaGen is advancing transformative antibody drugs for immune deficiency, infectious diseases and checkpoint resistant cancers by leveraging industry-leading, single-cell technologies. Its novel technology platforms uniquely capture and recreate complete immune repertoires as functional antibody libraries. This approach has enabled the creation of first-in-class recombinant polyclonal antibody therapies for the treatment of infectious diseases, including GigaGen's lead asset GIGA-2050 for COVID-19. In addition, GigaGen's lead oncology asset, GIGA-564, is an anti-CTLA-4 monoclonal antibody that has demonstrated improved anti-tumor efficacy in vivo through a unique mechanism of action.

For more information, please visit www.grifols.com or www.gigagen.com.

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