

GigaGen Publishes Research Describing Novel Mechanism of Action and Therapeutic Potential of its anti-CTLA-4 Drug Candidate, GIGA-564

--Reduced checkpoint inhibitor activity of GIGA-564 versus current anti-CTLA-4 inhibitors results in superior anti-tumor activity and lower toxicity in murine models --

--Data supports advancement of GIGA-564 into the clinic for cancer indications--

South San Francisco, Calif., July 14, 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 in BioRxiv entitled, "[Lack of blocking activity in anti-CTLA-4 antibodies reduces toxicity, but not anti-tumor efficacy.](#)" The publication describes the novel mechanism of action of its anti-CTLA-4 drug candidate, GIGA-564, selected due to its reduced checkpoint inhibition, which resulted in superior anti-tumor activity and lower toxicity in murine models compared to commercially available anti-CTLA-4 drugs.

"Our work suggests that new anti-CTLA-4 drugs should be optimized for depletion of intratumoral regulatory T cells (Tregs) versus strong blocking of CTLA-4 to its ligands, i.e. checkpoint inhibition. The latter has recently been associated with increased toxicities and dampening of the immune response to tumors by commercially available anti-CTLA-4 drugs, such as ipilimumab, due to preferential increase in proliferation of Tregs versus tumor-killing cytotoxic T cells," said Erica Stone, vice president of Oncology at GigaGen. "We selected GIGA-564 due to its minimal checkpoint inhibition and its ability to deplete intratumoral Tregs in the tumor. The data presented in this study shows that GIGA-564 has increased anti-tumor efficacy and reduced toxicity in pre-clinical models compared to ipilimumab, demonstrating its potential to improve outcomes for cancer patients."

David Johnson, Ph.D., MBA, founder and chief executive officer of GigaGen, added, "Current anti-CTLA-4s such as ipilimumab have shown promising results, but the majority of patients don't see reduction of tumors and experience life-threatening toxicities. We are excited to continue our work to advance GIGA-564 into the clinic, which has the potential to offer improved efficacy and reduced toxicities compared to commercially available anti-CTLA-4 therapies. In the near future we expect to move GIGA-564 toward large-scale GMP manufacturing and regulatory approval for first-in-human studies in patients with life-threatening cancers."

Key study highlights include:

- GIGA-564 has limited immune checkpoint inhibition activity and induced less proliferation of regulatory T cells compared to ipilimumab
- GIGA-564 showed increased anti-tumor efficacy but lower toxicity than ipilimumab in pre-clinical models
- GIGA-564's minimal checkpoint inhibition activity led to reduced colon and skin inflammation than ipilimumab in pre-clinical models. Strong checkpoint inhibition is considered the major cause of colon and skin inflammation by ipilimumab.

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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