Novocure announced 26 presentations on Tumor Treating Fields suggesting broad applicability of Tumor Treating Fields at the AACR Annual Meeting 2021

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Novocure (NASDAQ: NVCR) today announced 26 presentations on Tumor Treating Fields suggesting broad applicability of Tumor Treating Fields at the American Association for Cancer Research (AACR) Annual Meeting 2021, held virtually from April 10 to April 15, 2021. Research spanning seven solid tumor types confirms the anti-mitotic effect of Tumor Treating Fields and further explores downstream effects to identify optimal use of Tumor Treating Fields, including the role of Tumor Treating Fields-induced immunogenic cell death.

Presentation highlights include research showing the induction of robust anti-tumor immunity by Tumor Treating Fields in glioblastoma, the immunoregulatory role of Tumor Treating Fields on macrophage polarization, the effects of Tumor Treating Fields on DNA damage repair, and replication stress as a pathway to illuminate novel combination therapy options.

"Ongoing research at Novocure and throughout the global scientific community continues to build upon and deepen our understanding of Tumor Treating Fields as we strive to extend survival in some of the most aggressive forms of cancer," said Dr. Uri Weinberg, Novocure's Chief Science Officer. "We are honored to be a part of the invaluable exchange of scientific information at the AACR Annual Meeting and are particularly pleased to see an increasing focus on the effect of Tumor Treating Fields on the immune system's response against cancer."

Presentations from Novocure-sponsored and partner programs include:

(Poster #: CT258) EF-32 (TRIDENT): A pivotal randomized trial of radiation therapy concomitant with temozolomide +/- Tumor Treating Fields (TTFields) in newly diagnosed glioblastoma. W. Shi (Clinical Trials)

(Poster #: LB064) Long-term application of TTFields in anaplastic astrocytoma – a case study. D. Markovic (Clinical Research)

(Poster #: 2635) Contemporary clinical practice guidelines for the management of glioblastoma: an international survey. A. Lawson McLean (Science and Health Policy)

(Poster #: 1065) Concomitant dexamethasone treatment and tumor treating fields induced cell death in glioblastoma. B. Linder (Combination Therapies)

(Poster #: 2634) French health utilities for patients with glioblastoma using TTFields. G. Chavez (Science and Health Policy)

(Poster #: 717) Rapid transformation of TTFields care-delivery during COVID-19 pandemic to optimize treatment of patients with glioblastoma (GBM). P. Frongillo (COVID-19 and Cancer)

(Poster #: 1435) The distribution of Tumor Treating Fields is effected by cell confluence and pores in the membrane. T. Marciano (Experimental and Molecular Therapeutics)

(Poster #: 3070) Lung cancer TTFields treatment planning sensitivity to errors in torso segmentation. H. Ben Atya (Tumor Biology)

(Poster #: 3071) A method for infratentorial structures segmentation for tumor treating fields treatment planning. Y. Glozman (Tumor Biology)

(Poster #: 1692) A novel immunoregulatory role of Tumor Treating Fields (TTFields) on macrophage polarization. B. Brant (Immunotherapy, Preclinical and Clinical)

(Poster #: 1063) Effectiveness of Tumor Treating Fields (TTFields) in combination with sorafenib for treatment of hepatocellular carcinoma in vitro and in vivo. A. S. Davidi (Experimental and Molecular Therapeutics)

(Poster #: 1317) Inovivo: a dedicated system for delivery of therapeutic level Tumor Treating Fields (TTFields) to mice. S. Davidi (Experimental and Molecular Therapeutics)

(Poster #: 1382) Targeting Akt signaling pathway potentiates the antitumor effect of Tumor Treating Fields (TTFields) in vitro. A. Klein-Goldberg (Experimental and Molecular Therapeutics)

(Poster #: 1186) Efficacy of Tumor Treating Fields (TTFields) in mesothelioma is associated with reduced capacity for DNA damage repair. H. Mumblat (Experimental and Molecular Therapeutics)

(Poster #: 279) Transient opening of the blood brain barrier by Tumor Treating Fields (TTFields). C. Tempel Brami (Cancer Chemistry)

(Poster #: 1064) Antiproliferative effects of Tumor Treating Fields (TTFields) in human mesothelioma cell lines. M. Lupi (Combination Therapies)

(Poster #: 1200) Long-duration term TTFields treatment of glioblastoma cells induces cell death. S. Castiglione (New Targets)

(Poster #: 1037) Valproic acid (VPA) combined with Tumor Treating Fields (TTFields) in vitro decreases cellular proliferation and increases clonogenic

potential of glioblastoma (GBM) cells. S. Michelhaugh (Combination Therapies)

(Poster #: 1007) Patient-derived metastatic renal carcinoma cells are highly sensitive to Tumor Treating Fields (TTFields) in vitro. S. Michelhaugh (Cellular Responses to Anticancer Drugs)

(Poster #: 2011) Tumor Treating Fields Induce Cellular and Morphologic Changes that Include Disruption of Intercellular Communication Networks in Malignant Pleural Mesothelioma. A. Sarkari (Cell-cell Interactions)

(Poster #: 1678) Induction of Robust Anti-Tumor Immunity by Tumor Treating Fields in Glioblastoma. D. Chen (Immune Response to Therapies)

(Poster #: 3063) Prostaglandin e receptor 3 mediates resistance to Tumor Treating Fields in glioblastoma cells. D. Chen (Radiation Science)

(Poster #: 1051) Targeting replication stress pathway provides an avenue for novel combination therapy options including TTFields plus chemo agents which increase replication stress. N. Karanam (Combination Therapies)

(Poster #: 1975) Tumor Treating Fields Triggers Autophagy Pathway Activation at Primary Cilia to Promote Glioma Cell Survival. P. Shi (Cell Signaling)

(Poster #: 3049) Tumor treating fields induce DNA damage and apoptosis in medulloblastoma. R. Nitta (Pediatric Cancer: Basic Science)

(Poster #: LB023) Drug loaded nanoparticle targeting of pancreatic cancer using tumor treating fields (TTFields). P. Desai (Cancer Chemistry)

About Tumor Treating Fields
Tumor Treating Fields, or TTFields, are electric fields that disrupt cancer cell division.

When cancer develops, rapid and uncontrolled division of unhealthy cells occurs. Electrically charged proteins within the cell are critical for cell division, making the rapidly dividing cancer cells vulnerable to electrical interference. All cells are surrounded by a bilipid membrane, which separates the interior of the cell, or cytoplasm, from the space around it. This membrane prevents low frequency electric fields from entering the cell. TTFields, however, have a unique frequency range, between 100 to 500 kHz, enabling the electric fields to penetrate the cancer cell membrane. As healthy cells differ from cancer cells in their division rate, geometry and electric properties, the frequency of TTFields can be tuned to specifically affect the cancer cells while leaving healthy cells mostly unaffected.

Whether cells are healthy or cancerous, cell division, or mitosis, is the same. When mitosis starts, charged proteins within the cell, or microtubules, form the mitotic spindle. The spindle is built on electric interaction between its building blocks. During division, the mitotic spindle segregates the chromosomes, pulling them in opposite directions. As the daughter cells begin to form, electrically polarized molecules migrate towards the midline to make up the mitotic cleavage furrow. The furrow contracts and the two daughter cells separate. TTFields can interfere with these conditions. When TTFields are present in a dividing cancer cell, they cause the electrically charged proteins to align with the directional forces applied by the field, thus preventing the mitotic spindle from forming. Electrical forces also interrupt the migration of key proteins to the cell midline, disrupting the formation of the mitotic cleavage furrow. Interfering with these key processes disrupts mitosis and can lead to cell death.

TTFields is intended principally for use together with other standard-of-care cancer treatments. There is a growing body of evidence that supports TTFields' broad applicability with certain other cancer therapies, including radiation therapy, certain chemotherapies and certain immunotherapies. In clinical research and commercial experience to date, TTFields has exhibited no systemic toxicity, with mild to moderate skin irritation being the most common side effect.

Fundamental scientific research extends across two decades and, in all preclinical research to date, TTFields has demonstrated a consistent anti-mitotic effect. The TTFields global development program includes a broad range of clinical trials across all phases, included four phase 3 pivotal trials in a variety of tumor types. To date, more than 18,000 patients have been treated with TTFields.

About Novocure
Novocure is a global oncology company working to extend survival in some of the most aggressive forms of cancer through the development and commercialization of its innovative therapy, Tumor Treating Fields. Tumor Treating Fields are electric fields that disrupt cancer cell division. Novocure’s commercialized products are approved for the treatment of adult patients with glioblastoma and malignant pleural mesothelioma. Novocure has ongoing clinical trials investigating Tumor Treating Fields in brain metastases, gastric cancer, glioblastoma, liver cancer, non-small cell lung cancer, pancreatic cancer and ovarian cancer.

Headquartered in Jersey, Novocure has U.S. operations in Portsmouth, New Hampshire, Malvern, Pennsylvania and New York City. Additionally, the company has offices in Germany, Switzerland, Japan and Israel. For additional information about the company, please visit www.novocure.com or follow us at www.twitter.com/novocure.

Forward-Looking Statements

In addition to historical facts or statements of current condition, this press release may contain forward-looking statements. Forward-looking statements provide Novocure’s current expectations or forecasts of future events. These may include statements regarding anticipated scientific progress on its research programs, clinical trial progress, development of potential products, interpretation of clinical results, prospects for regulatory approval, manufacturing development and capabilities, market prospects for its products, coverage, collections from third-party payers and other statements regarding matters that are not historical facts. You may identify some of these forward-looking statements by the use of words in the statements such as "anticipate," "estimate," "expect," "project," "intend," "plan," "believe" or other words and terms of similar meaning. Novocure’s performance and financial results could differ materially from those reflected in these forward-looking statements due to general financial, economic, environmental, regulatory and political conditions as well as issues arising from the COVID-19 pandemic and other more specific risks and uncertainties facing Novocure such as those set forth in its Annual Report on Form 10-K filed on February 25, 2021 with the U.S. Securities and Exchange Commission. Given these risks and uncertainties, any or all of these forward-looking statements may prove to be incorrect. Therefore, you should not rely on any such factors or forward-looking statements. Furthermore, Novocure does not intend to update publicly any forward-looking statement, except as required by law. Any forward-looking statements herein speak only as of the date hereof. The Private Securities Litigation Reform Act of 1995 permits this discussion.

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