Novocure

updated January 2019

patientforward

forward-looking statements

This presentation contains certain forward-looking statements with respect to the business of Novocure and certain of its plans and objectives, including with respect to the development and commercialization of its lead product candidate, Optune, for a number of oncology indications. These forward-looking statements can be identified in this presentation by the fact that they do not relate only to historical or current facts. Forward-looking statements often use words “expect”, “intend”, “anticipate”, “plan”, “may”, “should”, “would”, “could” or other words of similar meaning. These statements are based on assumptions and assessments made by Novocure in light of industry experience and perception of historical trends, current conditions, expected future developments and other appropriate factors. By their nature, forward-looking statements involve risk and uncertainty, and Novocure's performance and financial results could differ materially from those expressed or implied in these forward-looking statements due to general financial, economic, regulatory and political conditions as well as more specific risks and uncertainties facing Novocure such as those set forth in its Annual Report on Form 10-K filed on February 22, 2018, or in subsequent quarterly filings with the U.S. Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in this presentation. Novocure assumes no obligation to update or correct the information contained in this presentation, whether as a result of new information, future events or otherwise, except to the extent legally required.

The statements contained in this presentation are made as at the date of this presentation, unless some other time is specified in relation to them, and service of this presentation shall not give rise to any implication that there has been no change in the facts set out in this presentation since such date. Nothing contained in this presentation shall be deemed to be a forecast, projection or estimate of the future financial performance of Novocure, except where expressly stated.

As of the date of this presentation, Optune is only FDA-approved for the treatment of adults with supratentorial glioblastoma, or GBM, and its approval for other indications is not certain. Novocure can provide no assurances regarding market acceptance of Optune or its successful commercialization, and can provide no assurances regarding the company’s results of operations or financial condition in the future. This presentation is for informational purposes only and may not be relied upon in connection with the purchase or sale of any security.

a global oncology company with a proprietary platform

novocure™
patientforward

2 FDA-APPROVED INDICATIONS	5 INDICATIONS IN LATE-STAGE PIPELINE	140+ ISSUED PATENTS GLOBALLY
$248M NET REVENUES FY 2018	>40% REVENUE GRWOTH 2018 COMPARED TO 2017	$246M CASH ON HAND

2018 key accomplishments

ADVANCE OUR PIPELINE

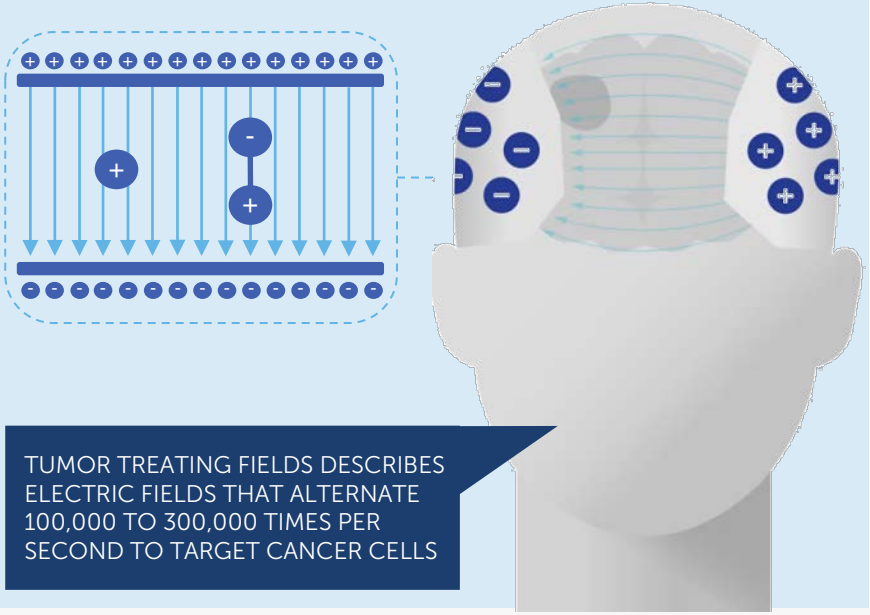
- **STELLAR mesothelioma data** presented and submitted to FDA for approval
- First patient enrolled in **PANOVA-3**
- **HEPANOVA** open for enrollment
- Novel algorithms developed to optimize dose delivery

DRIVE OPTUNE ADOPTION

- **>40% growth** in prescriptions for newly diagnosed GBM
- **$248M net revenues**
- Collaboration with **Zai Lab in China**
- National reimbursement in Sweden
- Substantial progress with Medicare

we can leverage physics to fight cancer

AN ELECTRIC FIELD EXERTS FORCES ON CHARGED OBJECTS



TUMOR TREATING FIELDS DESCRIBES ELECTRIC FIELDS THAT ALTERNATE 100,000 TO 300,000 TIMES PER SECOND TO TARGET CANCER CELLS

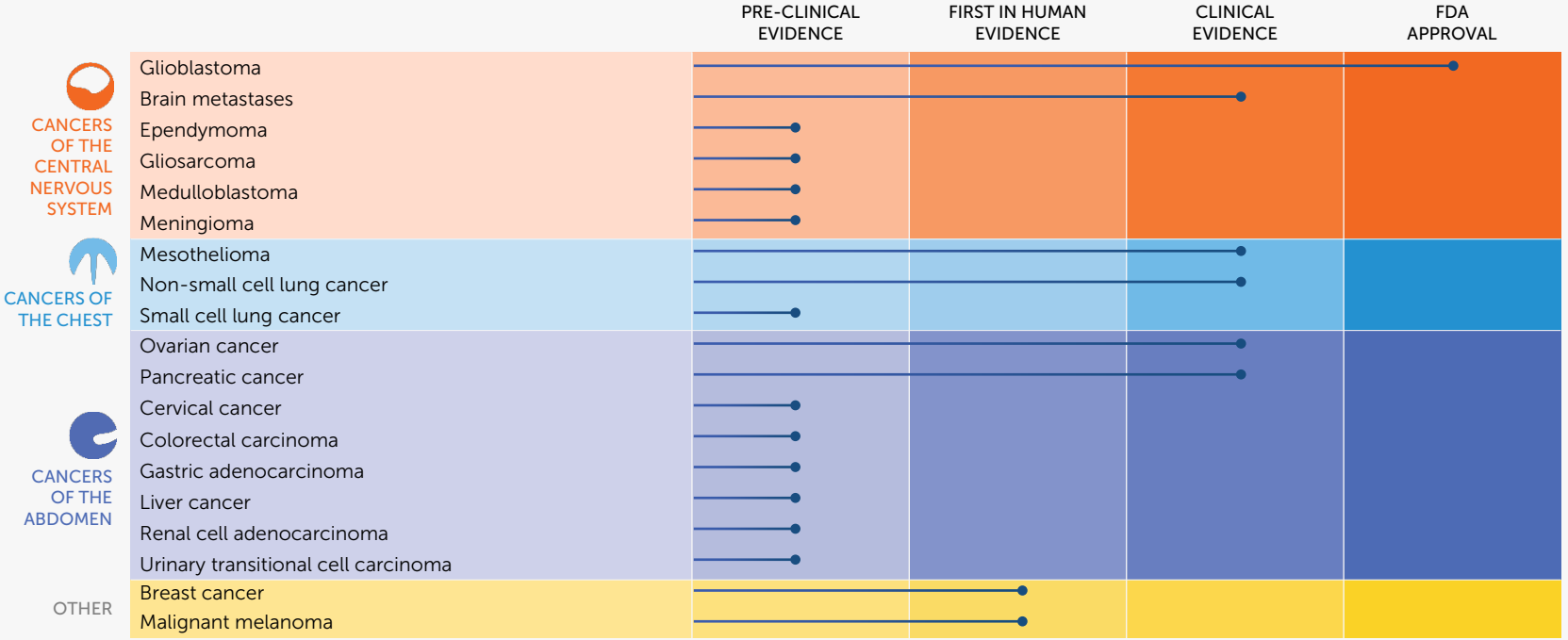
TUMOR TREATING FIELDS USES ELECTRIC FIELDS TO DISRUPT CELL DIVISION

MISALIGNED TUBULINS INTERFERE WITH FORMATION OF MITOTIC SPINDLE

ALTERNATING ELECTRIC FIELDS DISRUPT CANCER CELL DIVISION

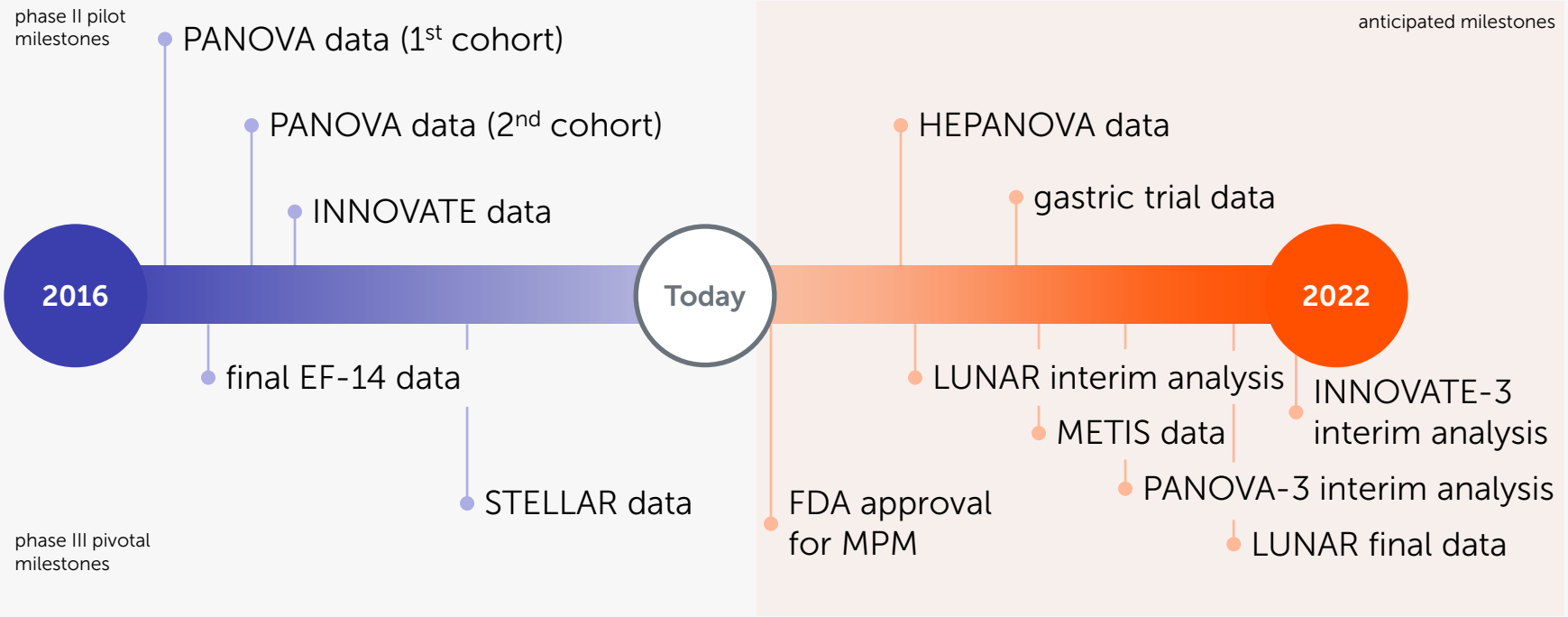
CANCER CELL DEATH

single mechanism of action provides pipeline in a product

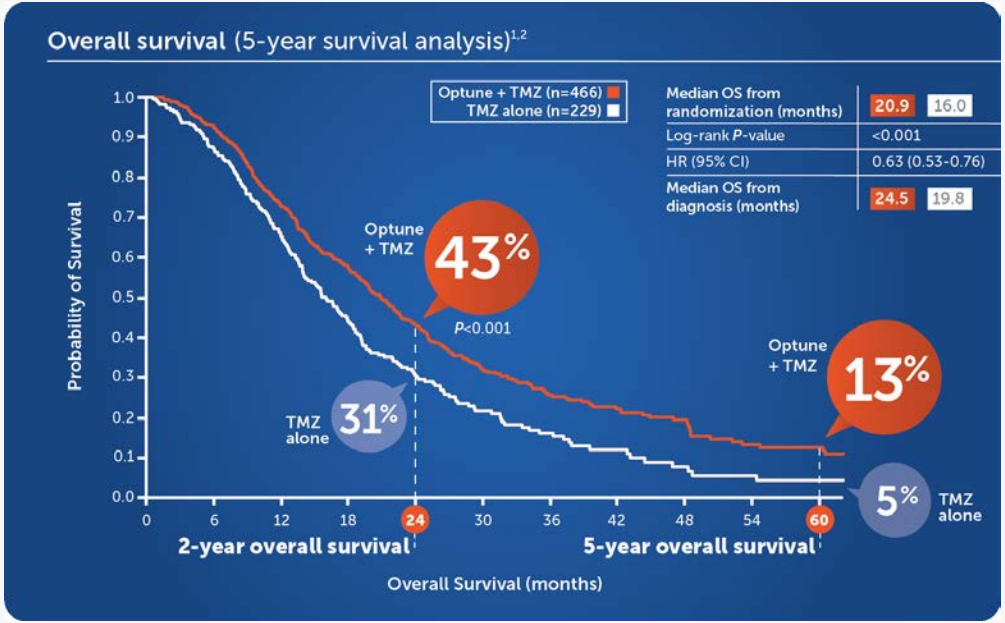


patientforward

drumbeat of clinical and regulatory milestones



proven to provide long-term quality survival to patients with newly diagnosed GBM

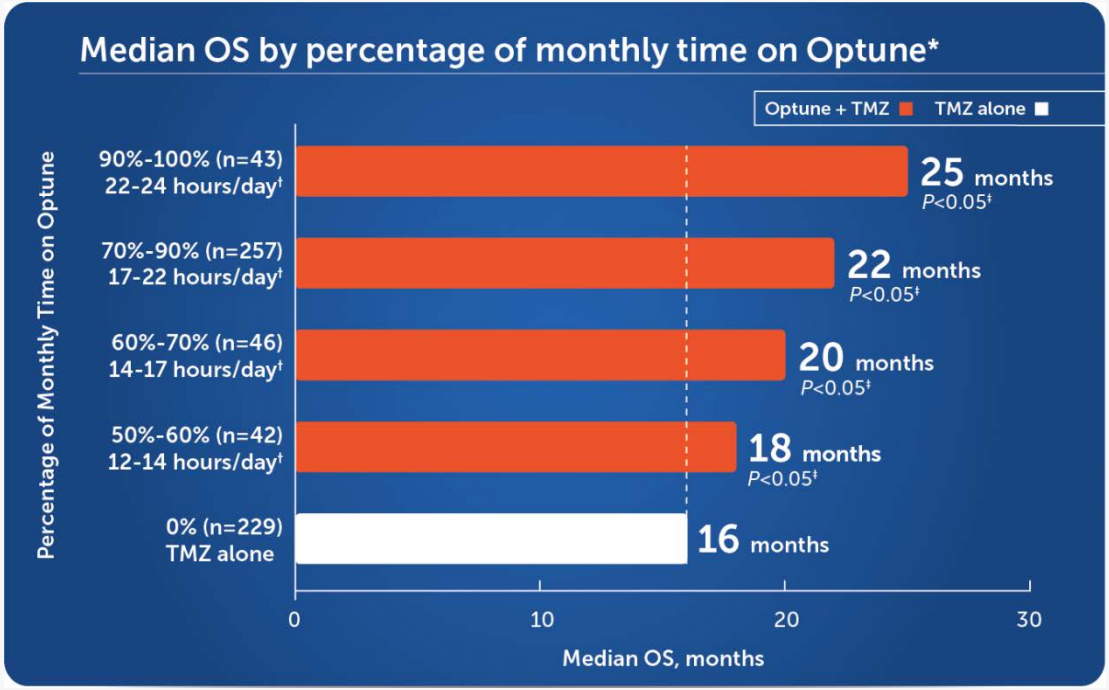


The updated NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Central Nervous System Cancers now include alternating electric field therapy (Optune) in combination with temozolomide (TMZ) following maximal safe resection and standard brain radiation therapy with concurrent TMZ as Category 1 recommended treatment option for patients with newly diagnosed supratentorial glioblastoma (GBM) and good performance status.* There is uniform NCCN consensus for this recommendation based on high-level evidence (Category 1).

GBM, glioblastoma; TMZ, temozolomide; OS, overall survival; ITT, intent-to-treat

1. Stupp, R., et al. *JAMA*. 2017 Dec 19;318(23):2306-2316.
2. Taphoorn, M.J.B., et al. *JAMA Oncol*. 2018 Apr 1;4(4):495-504.

with more time on Optune predicting survival benefit



86%

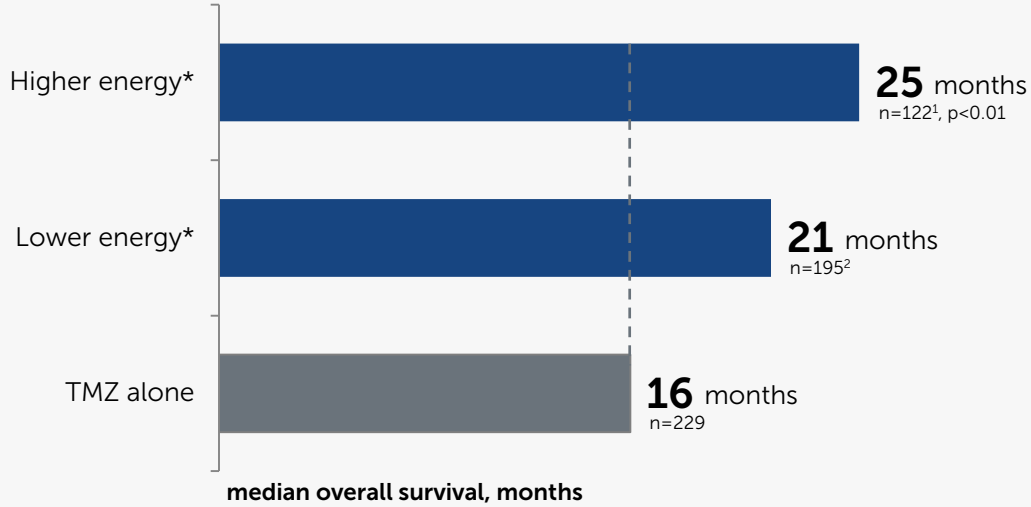
of patients received a survival benefit from Optune because they used it more than half the time (n=388/450)

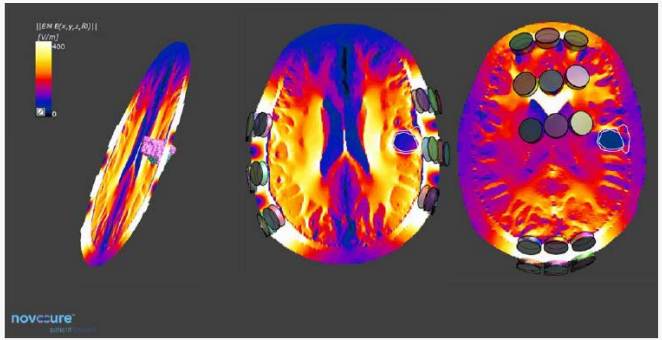
TMZ, temozolomide
* Based on amount of time Optune was turned on and providing therapy over the course of a month. This data reflects the average patient usage of Optune for the first 6 months of treatment (months 1-6).
†Approximation, based on monthly usage.
‡vs TMZ alone.

Ram Z., Kim C.Y, Nicholas GA and Toms S on behalf of EF-14 investigators. Compliance and treatment duration predict survival in a phase 3 EF-14 trial of Tumor Treating Fields with temozolomide in patients with newly diagnosed glioblastoma. Presented at: 2017 Society for Neuro Oncology; November 16-19, 2017; San Francisco, CA. Oral presentation ACTR-27.

higher energy at tumor bed predicted survival benefit

overall survival by energy delivered





TMZ, temozolomide
Dose density defined as a factor of both power loss density and monthly usage of therapy.
*Higher energy defined as power loss densities greater than or equal to 1.1 mW/cm^3. Lower energy defined as power loss densities less than1.1 mW/cm^3

[1] 95% CI 22-37; 76 events, 46 censored
[2] 95% CI 17-24; 153 events, 42 censored

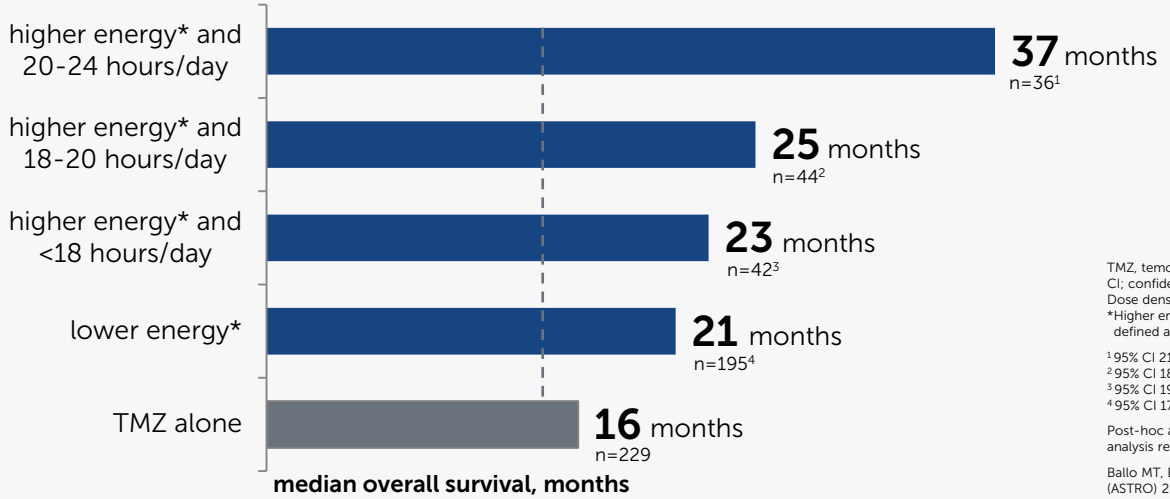
Post-hoc analysis of EF-14 treatment arm patient data. Of the 466 EF-14 treatment arm patients, the analysis reviewed 317 patients with treatment duration >2 months and sufficient MRI quality.

Ballo MT, Bomzon Z, Urman N, Lavy-Shahaf G, Toms SA. American Society for Radiation Oncology (ASTRO) 2018 Annual Meeting. Poster Presentation 1110 - Correlation of TTFields Dose Density and Survival Outcomes in Newly Diagnosed Glioblastoma: A Numerical Simulation-Based Analysis of Patient Data from the EF-14 Randomized Trial. Poster Presentation 1110: Tuesday, Oct. 23, 2018, 4:57 p.m. CDT

Stupp, R., et al. *JAMA*. 2017 Dec 19;318(23):2306-2316.

dose density = time on therapy x energy

overall survival by dose in newly diagnosed GBM



TMZ, temozolomide
CI; confidence interval
Dose density defined as a factor of both power loss density and monthly usage of therapy.
*Higher energy defined as power loss densities greater than or equal to 1.1 mW/cm^3. Lower energy defined as power loss densities less than1.1 mW/cm^3

[1] 95% CI 21-48; 23 events, 13 censored
[2] 95% CI 18-39; 29 events, 15 censored
[3] 95% CI 19-44; 24 events, 18 censored
[4] 95% CI 17-24; 153 events, 42 censored

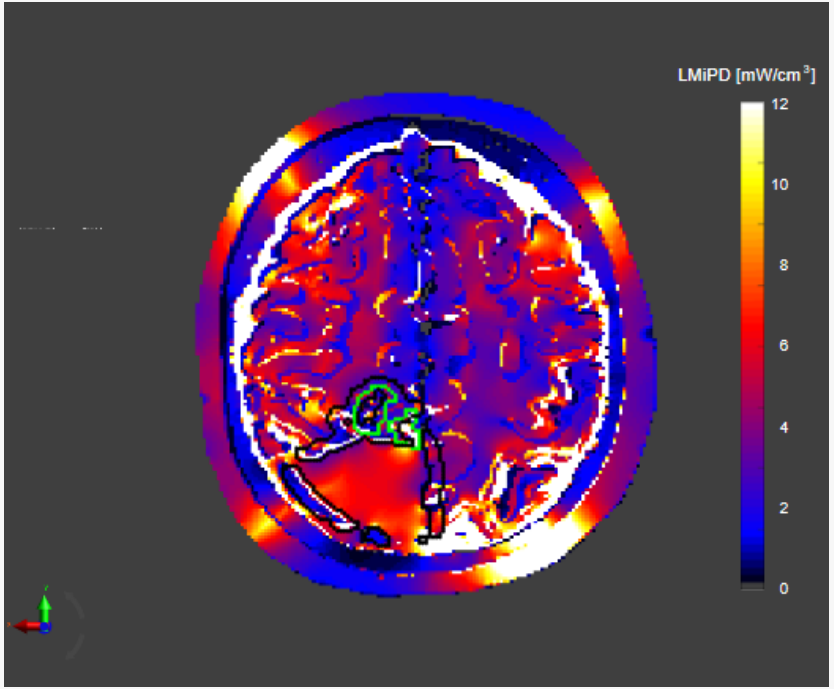
Post-hoc analysis of EF-14 treatment arm patient data. Of the 466 EF-14 treatment arm patients, the analysis reviewed 317 patients with treatment duration >2 months and sufficient MRI quality.

Ballo MT, Bomzon Z, Urman N, Lavy-Shahaf G, Toms SA. American Society for Radiation Oncology (ASTRO) 2018 Annual Meeting. Poster Presentation 1110 - Correlation of TTFields Dose Density and Survival Outcomes in Newly Diagnosed Glioblastoma: A Numerical Simulation-Based Analysis of Patient Data from the EF-14 Randomized Trial. Poster Presentation 1110: Tuesday, Oct. 23, 2018, 4:57 p.m. CDT

Stupp, R., et al. *JAMA*. 2017 Dec 19;318(23):2306-2316.

potential to further improve efficacy via engineering

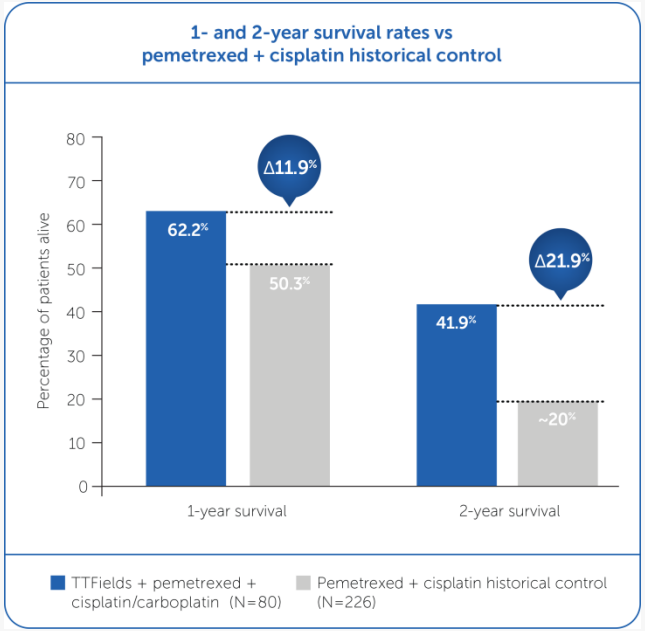
- Tumor Treating Fields effect is usage and energy dependent
- EF-14 post-hoc analysis confirmed **increased energy associated with improved overall survival**
- New algorithms developed to enable **optimized treatment planning**
- **Improved transducer arrays** in development



Ballo M, Bomzon Z, Urman N, Lavy-Shahaf G, Toms S. Higher Doses of TTFields in the Tumor Are Associated With Improved Patient Outcome. *Neuro-Oncology*, Volume 20, Issue suppl_6, 5 November 2018, Pages vi21–vi22, https://doi.org/10.1093/neuonc/noy148.078

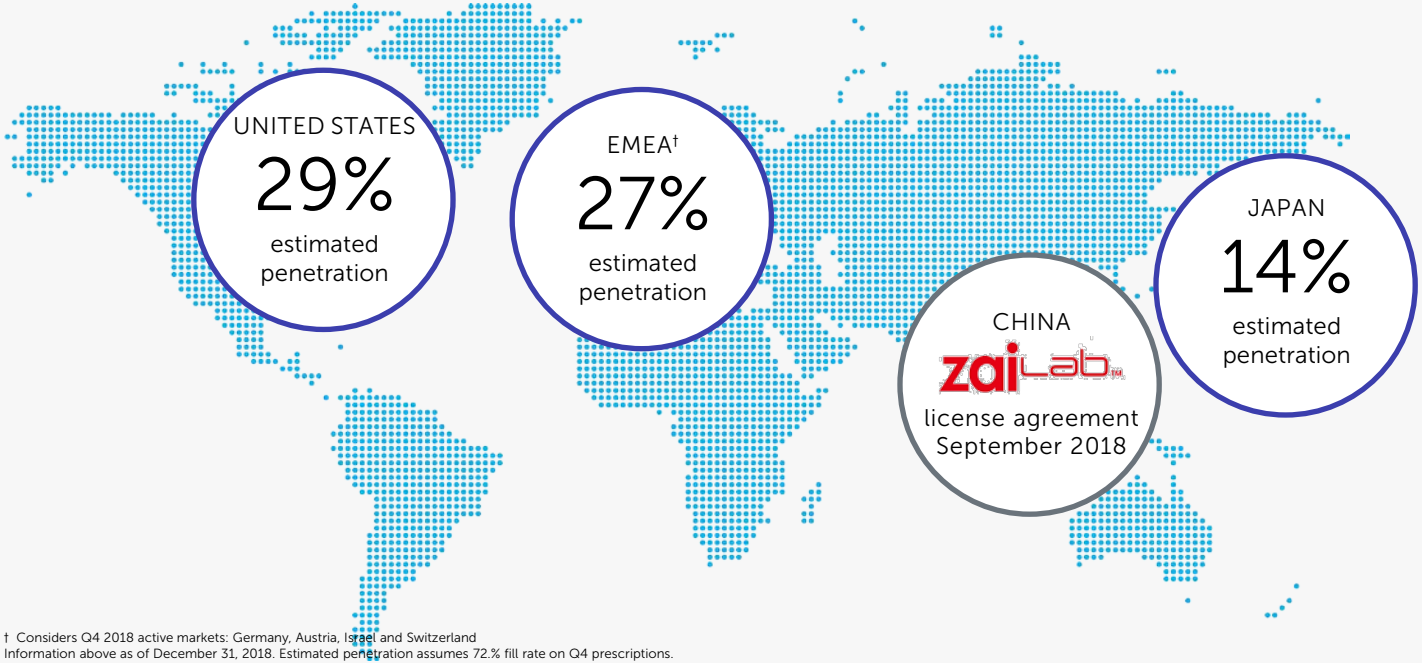
HDE application submitted to FDA for unresectable malignant pleural mesothelioma (MPM)

- **Significant extension in overall survival** versus historical control
  - **18.2 month median overall survival** for Optune plus chemotherapy
  - 12.1 month median overall survival in historical control
- No significant increase in serious adverse events



Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET. 1. Vogelzang N.J., et al. *J Clin Oncol*. 2003 Jul 15;21(14):2636-44.

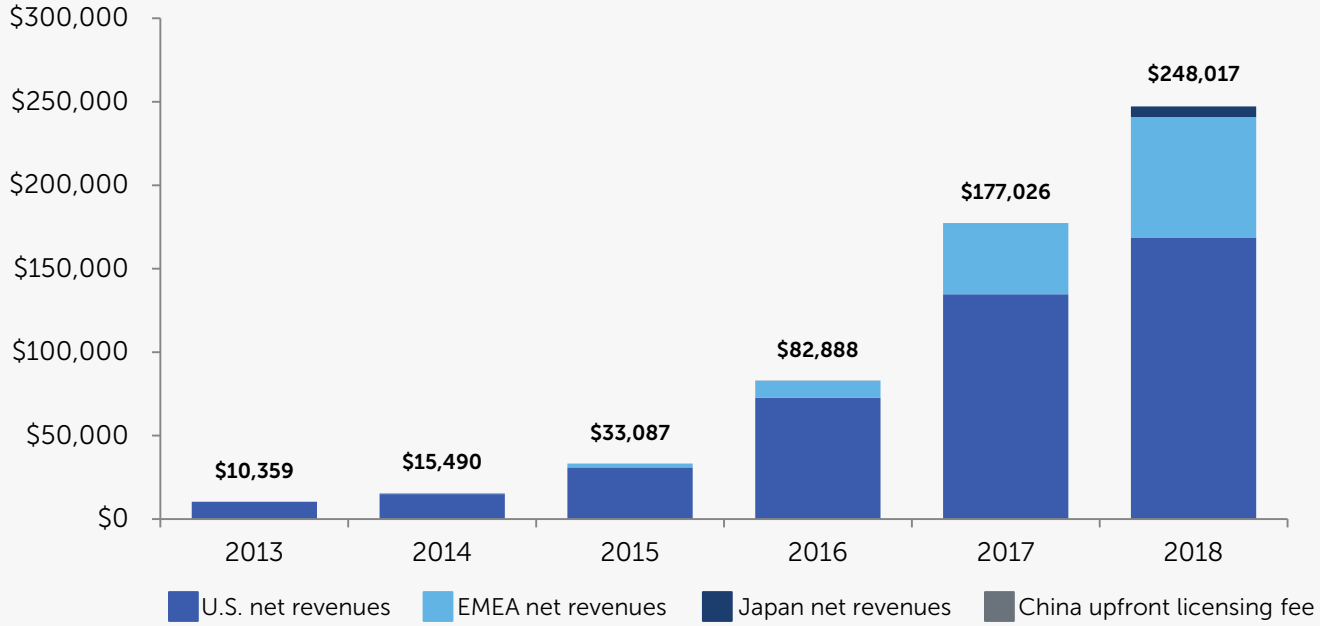
established international presence



† Considers Q4 2018 active markets: Germany, Austria, Israel and Switzerland
Information above as of December 31, 2018. Estimated penetration assumes 72.% fill rate on Q4 prescriptions.
See Novocure's Form 10-K filed on February 22, 2018 for additional detail

track record of commercial execution

global net revenues (USD in thousands)



$248M

FULL YEAR 2018
NET REVENUES

>40%

REVENUE GROWTH
2018 COMPARED TO 2017

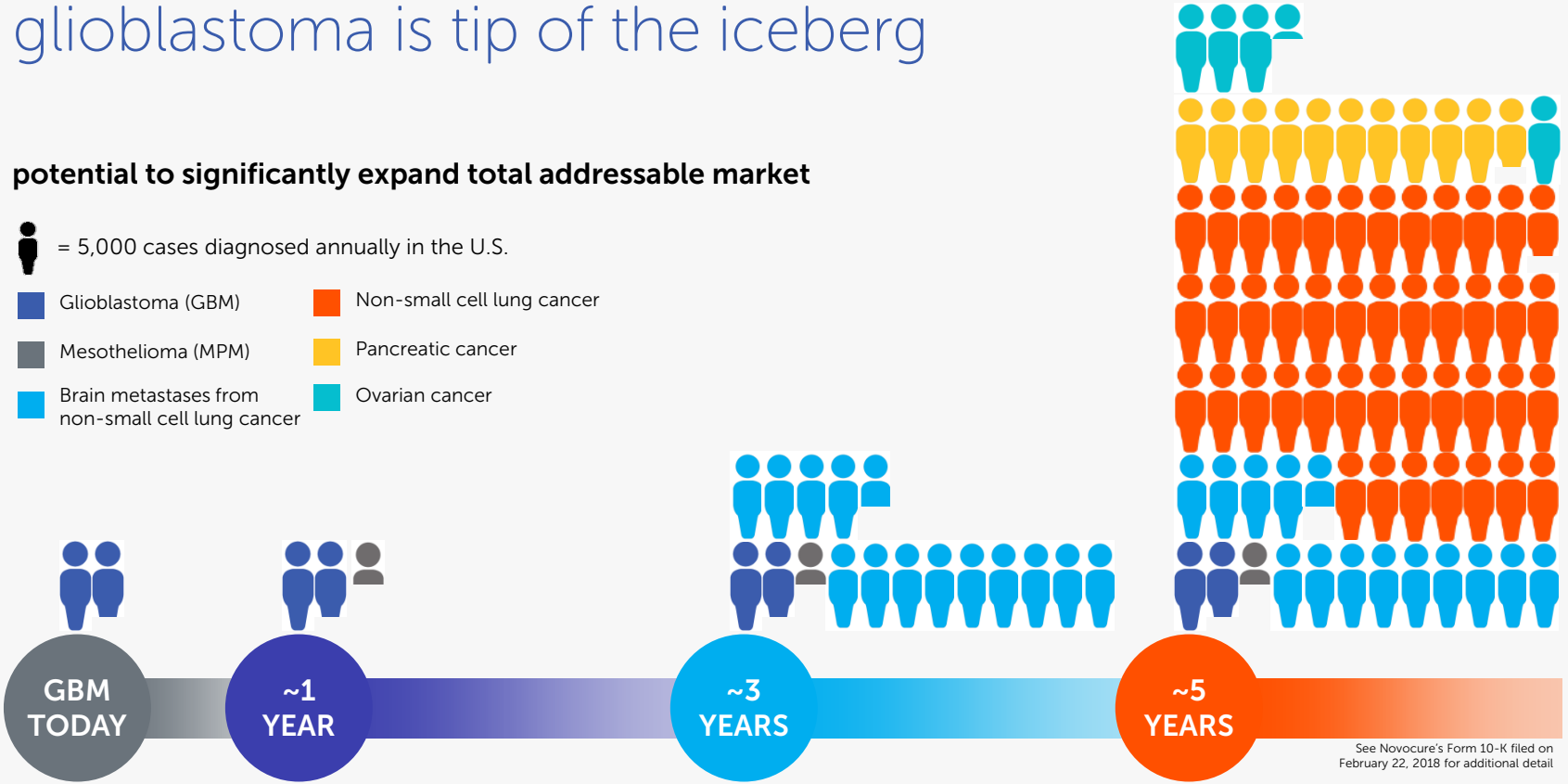
See Novocure's Form 8-K filed on or around Jan. 7, 2019 for additional detail

glioblastoma is tip of the iceberg

potential to significantly expand total addressable market

= 5,000 cases diagnosed annually in the U.S.

- Glioblastoma (GBM)
- Mesothelioma (MPM)
- Brain metastases from non-small cell lung cancer
- Non-small cell lung cancer
- Pancreatic cancer
- Ovarian cancer



See Novocure's Form 10-K filed on February 22, 2018 for additional detail

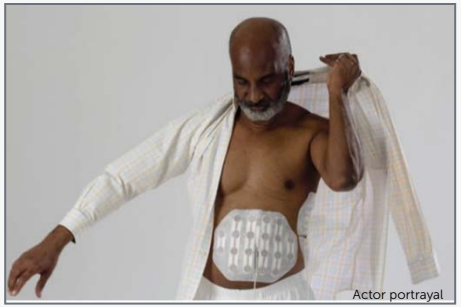
patientforward

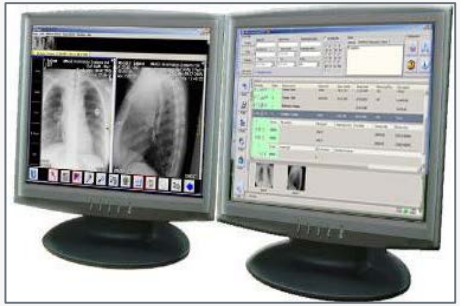
cash flow from GBM business largely funding R&D investments

$246M

CASH ON HAND AT
2018 YEAR END


Steve is an Optune user


Actor portrayal




Actor portrayal

robust intellectual property portfolio

INTELLECTUAL PROPERTY

- As of December 31, 2018 over

140

issued patents globally with expected expiration dates as late as 2036

- Numerous patents pending worldwide

LAYERED PATENT STRATEGY

- Hold fundamental IP for the use of alternating electric fields in oncology
- Platform technology, tools and multiple applications covered, including mechanism of action, use of alternating electric fields in combination with chemotherapy and delivery of alternating electric fields through transducer arrays
- Continue to file patent applications globally as we enhance our technology and applications

PMA APPROVAL PATHWAY

- Optune® classified as class III, life-sustaining device requiring PMA
- Anticipate any competitor device would require clinical trials and extensive data

Novocure is working to…

Advance our pipeline

Drive Optune adoption

Invest in our people and culture

Create shareholder value

… **extend survival** in some of the most aggressive forms of cancer

Optune® indications for use and important safety information for GBM

INDICATIONS

- Optune is intended as a treatment for adult patients (22 years of age or older) with histologically-confirmed glioblastoma multiforme (GBM).
- Optune with temozolomide is indicated for the treatment of adult patients with newly diagnosed, supratentorial glioblastoma following maximal debulking surgery, and completion of radiation therapy together with concomitant standard of care chemotherapy.
- For the treatment of recurrent GBM, Optune is indicated following histologically-or radiologically-confirmed recurrence in the supratentorial region of the brain after receiving chemotherapy. The device is intended to be used as a monotherapy, and is intended as an alternative to standard medical therapy for GBM after surgical and radiation options have been exhausted.

CONTRAINDICATIONS

- Do not use Optune in patients with an active implanted medical device, a skull defect (such as, missing bone with no replacement), or bullet fragments. Use of Optune together with implanted electronic devices has not been tested and may theoretically lead to malfunctioning of the implanted device. Use of Optune together with skull defects or bullet fragments has not been tested and may possibly lead to tissue damage or render Optune ineffective.
- Do not use Optune in patients that are known to be sensitive to conductive hydrogels. In this case, skin contact with the gel used with Optune may commonly cause increased redness and itching, and rarely may even lead to severe allergic reactions such as shock and respiratory failure.

Optune® indications for use and important safety information for GBM

WARNINGS AND PRECAUTIONS

- Optune can only be prescribed by a healthcare provider that has completed the required certification training provided by Novocure (the device manufacturer).
- Do not prescribe Optune for patients that are pregnant, you think might be pregnant or are trying to get pregnant, as the safety and effectiveness of Optune in these populations have not been established.
- The most common (≥10%) adverse events involving Optune in combination with temozolomide were thrombocytopenia, nausea, constipation, vomiting, fatigue, medical device site reaction, headache, convulsions, and depression.
- The most common (≥10%) adverse events seen with Optune monotherapy were medical device site reaction and headache.
- The following adverse reactions were considered related to Optune when used as monotherapy: medical device site reaction, headache, malaise, muscle twitching, fall and skin ulcer.
- Use of Optune in patients with an inactive implanted medical device in the brain has not been studied for safety and effectiveness, and use of Optune in these patients could lead to tissue damage or lower the chance of Optune being effective.
- If the patient has an underlying serious skin condition on the scalp, evaluate whether this may prevent or temporarily interfere with Optune treatment.

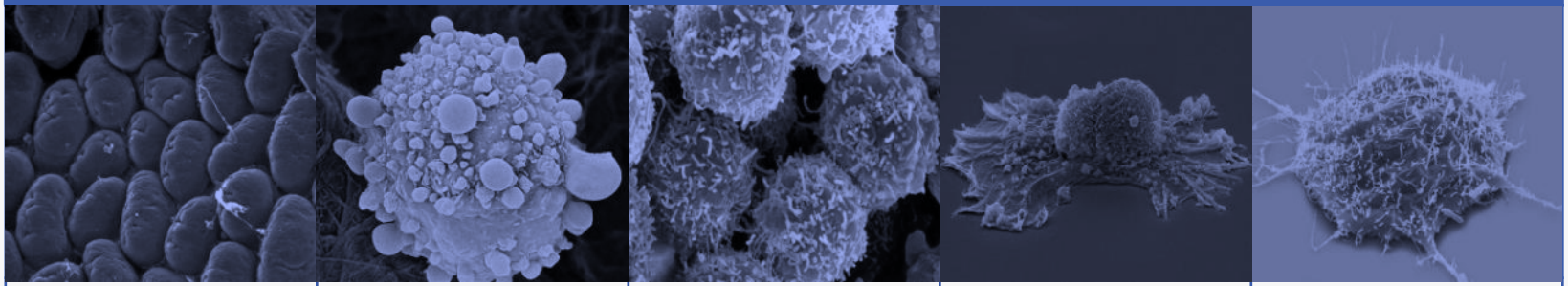

novocure™
patientforward

clinical appendix

patientforward

Tumor Treating Fields is frequency-tuned to cell size to maximize effects on mitosis

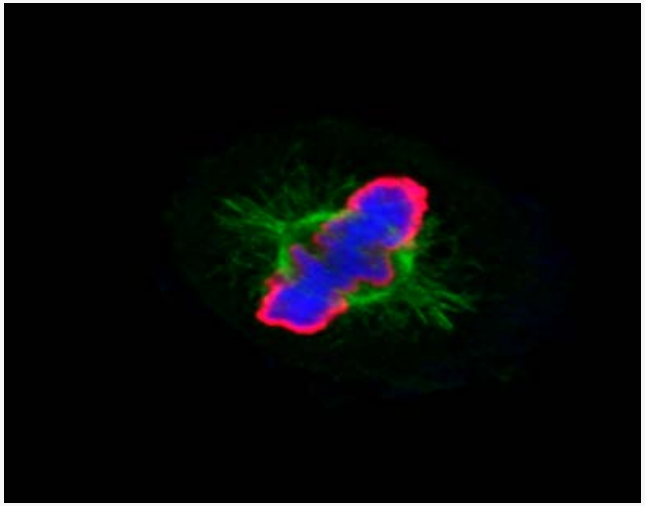
EFFECTS ON CELLS ARE FREQUENCY SPECIFIC AND INVERSELY RELATED TO CELL SIZE



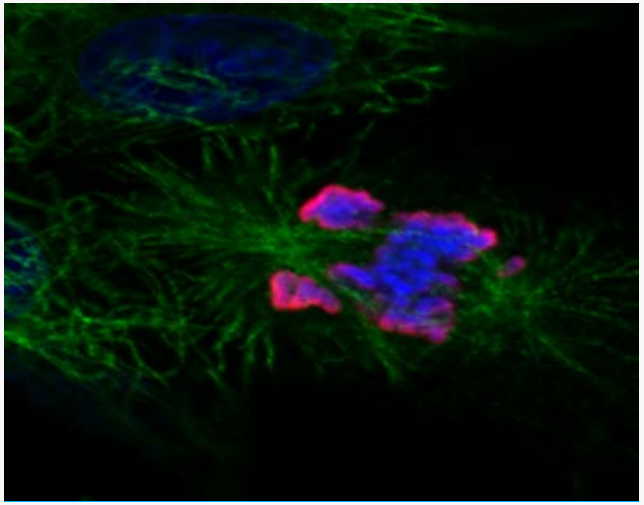
Normal intestine	Pancreatic cancer	Non-small cell lung cancer	Ovarian cancer	Glioblastoma
~50 kHz	150 kHz	150 kHz	200 kHz	200 kHz

physical, observable mechanism of action

CONTROL



TUMOR TREATING FIELDS



Blue staining is DAPI, highlighting DNA

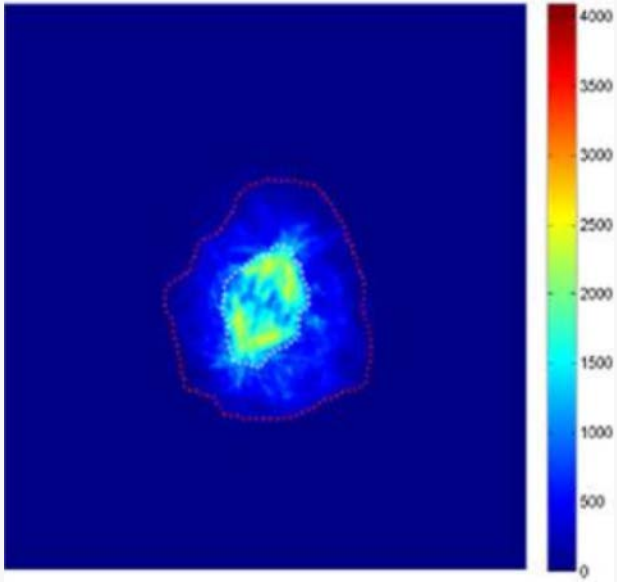
Red staining is for PH3, highlighting DNA binding proteins

Green staining is for tubulin, highlighting the mitotic spindle

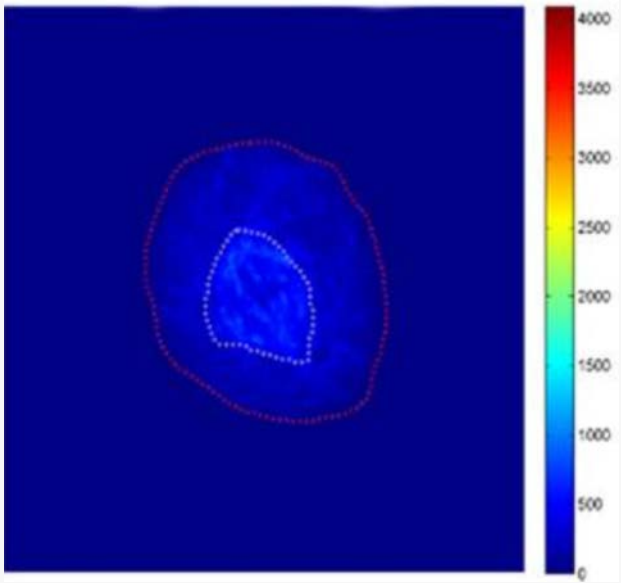
Novocure data on file

Tumor Treating Fields induced severe spindle damage in cancer cell lines

CONTROL



TUMOR TREATING FIELDS

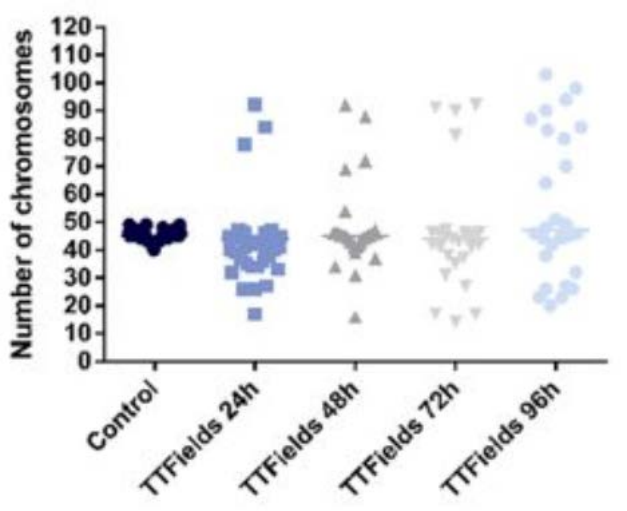


A549 cells in lung tissue were treated with Tumor Treating Fields for 24 hours.

Tubulin fluorescence images were inverted and pseudocolored so that increasing fluorescence intensity is indicated from blue to red (scale bar represent arbitrary units). Dashed lines define the region between the two spindle poles (white) and overall tubulin fluorescence within the cell (Red).

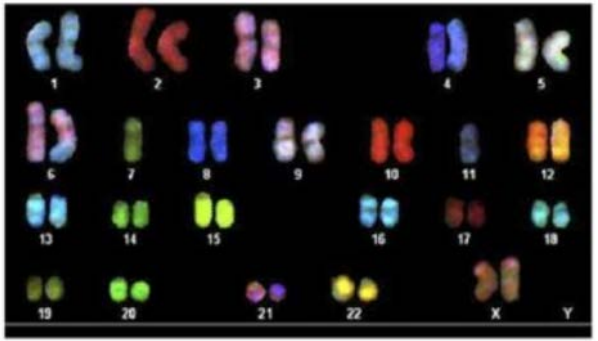
Giladi, M., et al. *Sci Rep.* 2015 Dec 11;5:18046.

Tumor Treating Fields resulted in abnormal chromosomal segregation

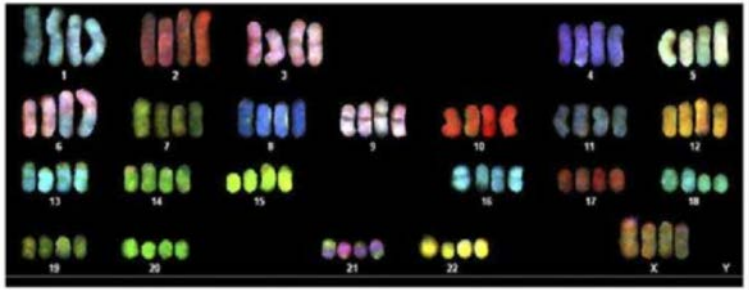


A2780 cells were treated with TTFields for 96hours. Chromosome number was evaluated every 24hours. Horizontal bars indicate median values ($p<0.0001$; Brown-Forsythe test).

HYPODIPLOIDY AFTER TREATMENT



TETRAPLOIDY AFTER TREATMENT

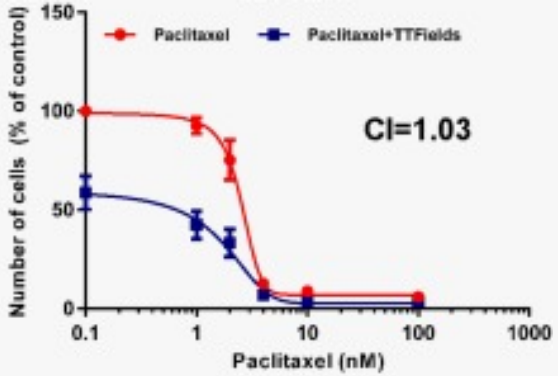


Spectral karyotyping of A2780 cells showing numerical aberrations following TTFields treatment.

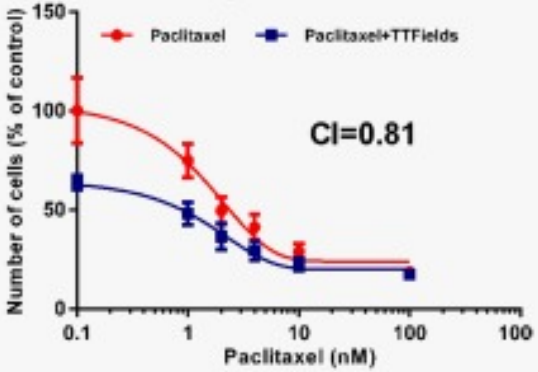
Giladi, M., et al. *Sci Rep.* 2015 Dec 11;5:18046.

Tumor Treating Fields may offer additive or synergistic benefits in combination with chemotherapy

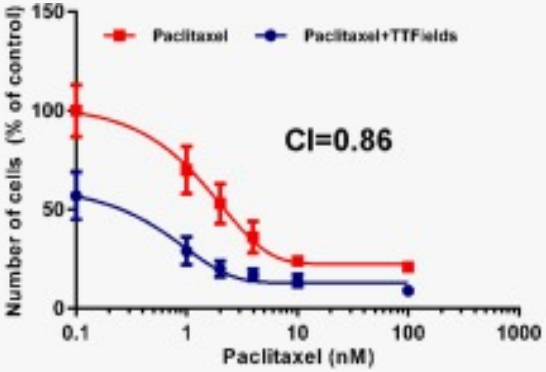
A2780



OVCAR3



Caov-3

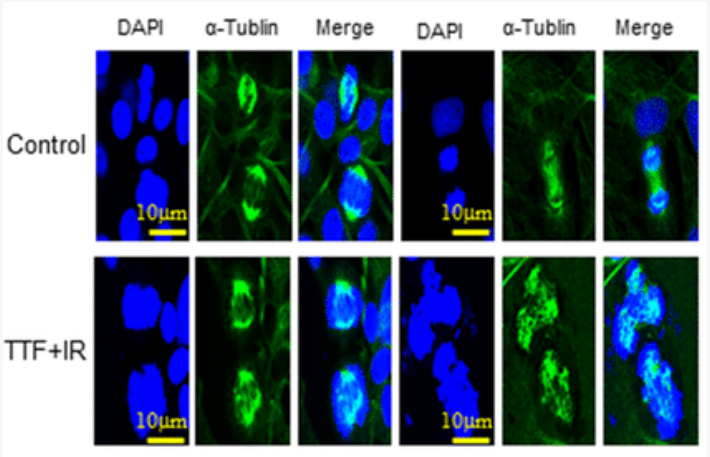


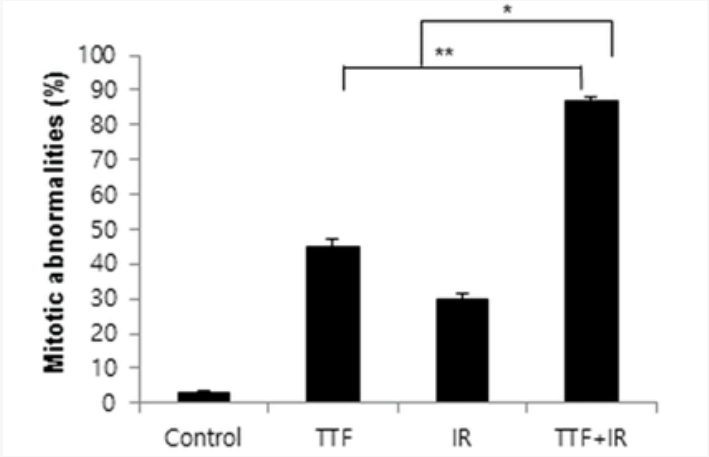
Combination of Tumor Treating Fields and paclitaxel chemotherapy

Ovarian Cancer Cells were treated for 72 hr with paclitaxel alone (1–100 nM) and in combination with TTFields (2.7 V/cm pk-pk, 200 kHz). Dose–response plots of A2780, OVCAR-3 and Caov-3 cells. CI: combination index.

Voloshin, T., et al. *Int J Cancer*. 2016 Dec 15; 139(12): 2850–2858.

Tumor Treating Fields interfered with DNA damage response





Kim, E.H., et al. *Oncotarget*. 2016 Sep 20; 7(38): 62267–62279.

TTF+IR triggers multinucleation and mitotic abnormalities in glioblastoma cells.
Cells were exposed to 24 h of TTF, 5 Gy of γ-rays or 5 Gy of γ-rays followed by 24 h of TTF, indicated as the TTF, IR and TTF+IR treatments, respectively.

Immunofluorescence microscopy image of cells stained for α-tubulin (green) and DAPI. The histograms summarize the results of three independent experiments (with at least 100 cells counted in each experiment in each column). The values represent the means of three experiments ± SD; *p < 0.05, **p < 0.001. Cells were scored for the presence (abnormal) or absence (normal) of chromosome alignment and se.

Tumor Treating Fields may inhibit metastases and activate an immune response

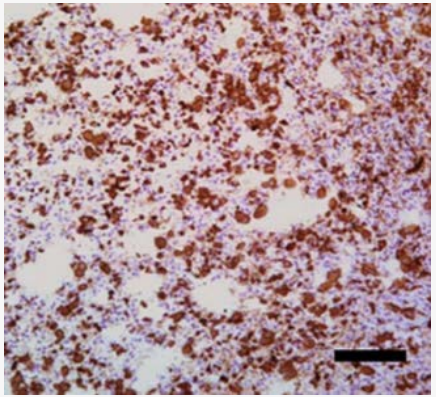
CONTROL

TUMOR TREATING FIELDS

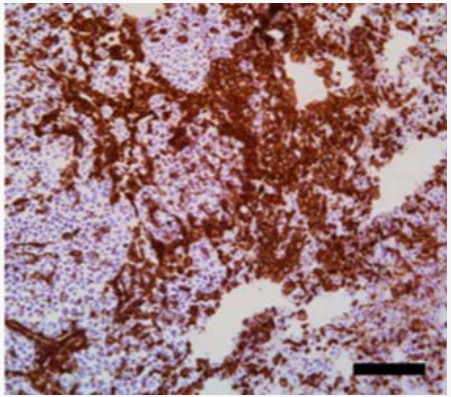
Exemplary photos of surface lung metastases in Tumor Treating Fields treated versus sham control rabbits.

Treatment was initiated on day 12 from implantation of the kidney tumor. The average total number (±SD) of surface metastases in control versus treated rabbits

CONTROL



TUMOR TREATING FIELDS

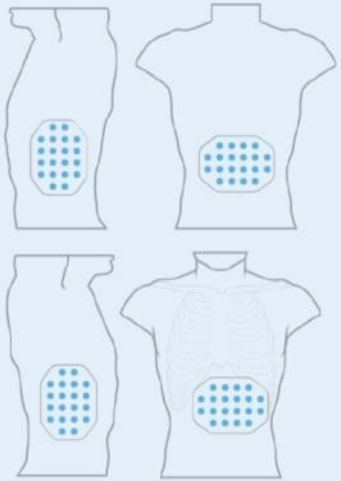


Discrete intra-tumoral infiltration of CD45 positive T cells in control tumors and abundant intra tumoral CD45 positive T cells in Tumor Treating Fields treated tumors. Scale bar 100 lm

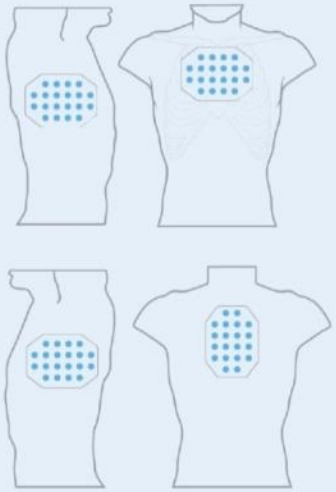
Kirson, E.D., et al. *Clin Exp Metastasis*. 2009;26(7):633-40.

transducer array placement

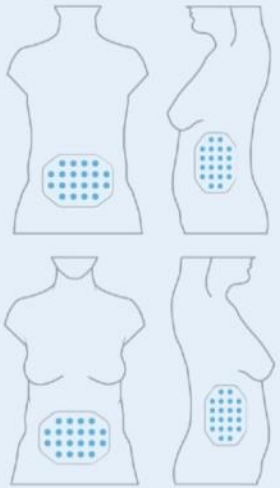
abdominal array placement



torso array placement



pelvic array placement



completed pilot STELLAR trial in mesothelioma

A pilot, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with pemetrexed and cisplatin or carboplatin in patients with previously untreated pleural mesothelioma

- 80 patients with comparison to historical controls
- Data presented at the 19th World Conference on Lung Cancer in Toronto on September 25, 2018
- HDE application submitted to the FDA in October 2018

EFFICACY ENDPOINTS	TTFIELDS WITH PEMETREXED AND CISPLATIN OR CARBOPLATIN[1]	PEMETREXED AND CISPLATIN ALONE HISTORICAL RESULTS[2]
Median PFS	7.6 months	5.7 months
Median OS	18.2 months	12.1 months

Novocure, Ltd. Safety and Efficacy of TTFields (150 kHz) Concomitant With Pemetrexed and Cisplatin or Carboplatin in Malignant Pleural Mesothelioma (STELLAR) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT02397928. NLM Identifier: NCT02397928 1. Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET. 2. Vogelzang, N.J., et. al., *J Clin Oncol* 2003 Jul 15;21(14):2636-44.

STELLAR study design & patient characteristics

Unresectable malignant pleural mesothelioma N=80 → **TTFields (150kHz, ≥ 18 h/day) + Pemetrexed/Cisplatin or Pemetrexed/Carboplatin x 6** → **TTFields alone until Disease Progression** → **Follow-up for survival**

The sample size provides 80% power (α, 0.05) to detect an increase in median OS of 5.5 months vs historical data[1] (i.e. mOS of 17.6 mo, HR of 0.67)

- **Pemetrexed** IV, 500 mg/m^2 day 1
- Cisplatin 75 mg/m^2 day 1
- Carboplatin AUC 5 day 1 q3w up to 6 cycles

- Follow-up q3w
- CT scan q6w: Modified RECIST

Key Inclusion Criteria:
- Pathological evidence of unresectable MPM
- At least one measurable lesion (mRECIST)
- ECOG PS score 0-1

Key Exclusion Criteria:
- Candidate for curative treatment
- Significant comorbidities
- Implanted electronic medical devices

Primary Endpoint: OS
Secondary Endpoints: ORR, PFS, Safety

Median age, years (range)	**67 (27–78)**	**Epithelioid histology**	**53 (66%)**
Male	**67 (84%)**	**Sarcomatoid/Biphasic**	**21 (26%)**
ECOG PS 0	**45 (56%)**	**Unspecified histology**	**6 (8%)**

- **TTFields cycles: Median (range): 8.0 (2–41)**
- **Chemotherapy cycles: Median (range): 6.0 (1–7)**
- **Carboplatin: 50 patients (63%)**

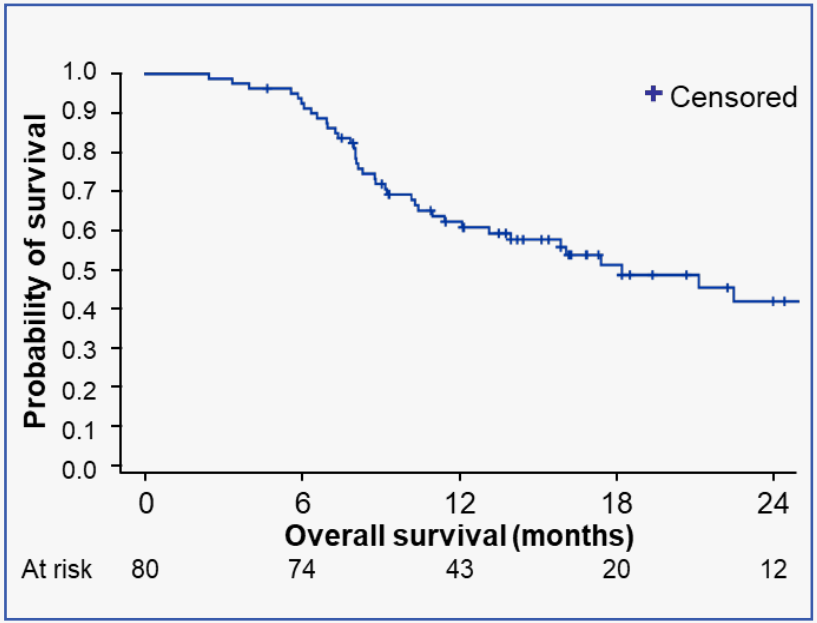
Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET. 1. Vogelzang N.J., et al. *J Clin Oncol*. 2003 Jul 15;21(14):2636-44.

STELLAR efficacy results: primary endpoint met

Median OS (all pts)	18.2 months (95% CI 12.1-25.8)
1-year OS (all pts)	62.2% (95% CI 50.3%–72.0%)
Median OS (epithelioid pts only)	21.2 months (95% CI 13.2-25.8)
Median PFS	7.6 months (95% CI 6.7-8.6)
mRECIST PR; DCR* **[best response in 72 patients]**	29 (40%); 70 (97%)

* Investigator-assessed partial response & disease control rate (PR + stable disease)

The threshold for significant extension in OS compared to historical control[1] was met (HR 0.663; 95% CI 0.558-0.826; p=0.043).



Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET. 1. Vogelzang N.J., et al. *J Clin Oncol*. 2003 Jul 15;21(14):2636-44.

STELLAR safety results

Adverse event reported in >1 patient	Grade ≥3 AE n (%)
Patients with ≥1 AE, n(%)	21 (26)
Hematologic Disorders	
Anemia	6 (8)
Leukopenia	3 (4)
Neutropenia	6 (8)
Thrombocytopenia	2 (3)
Non-hematologic Disorders	
Fatigue	3 (4)
Skin-related toxicity	4 (5)
Dyspnea	2 (3)

- Thirty-seven patients (46%) had TTFields-related skin toxicity
- Four patients (5%) had Grade 3 skin toxicity (rash or skin irritation)
  - Resolved after treatment with topical corticosteroids or a short treatment break
- No serious adverse event was related to TTFields

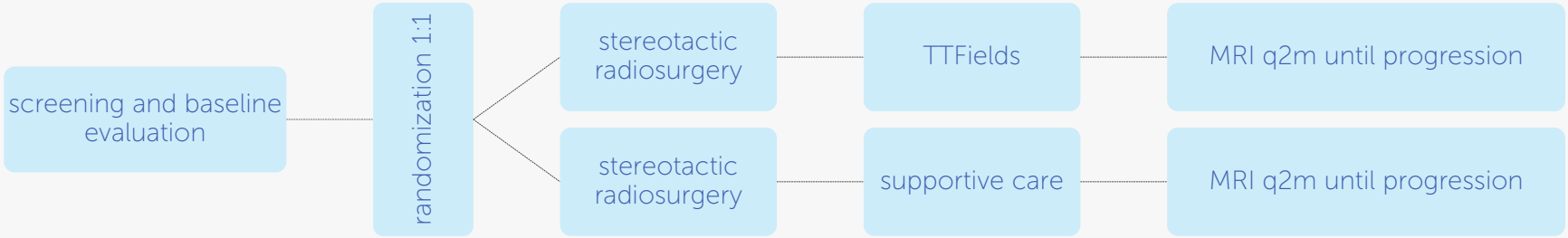
Median compliance with TTFields was 68% (16.3 hours/day)

Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET.

ongoing METIS trial in brain metastases

A pivotal, open-label, randomized study of radiosurgery with or without Tumor Treating Fields (150 kHz) for 1-10 brain metastases from non-small cell lung cancer

- 270 patients randomized 1:1
- Tumor Treating Fields until second cerebral progression
- Primary endpoint –time to first intracranial progression
- Secondary endpoints include time to neurocognitive failure, overall survival, radiological response

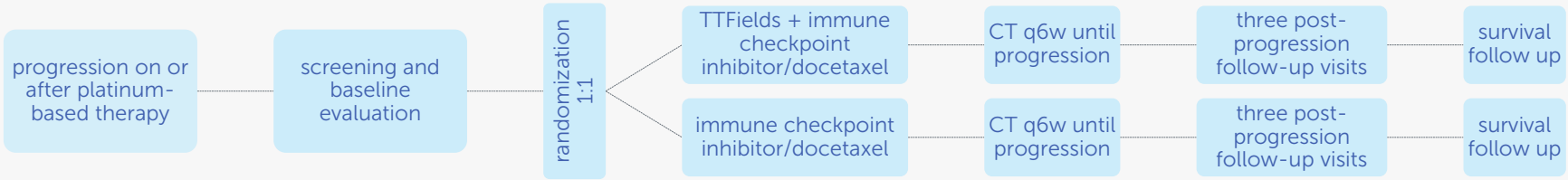


Novocure, Ltd. Effect of TTFields (150 kHz) in Non-small Cell Lung Cancer (NSCLC) Patients With 1-10 Brain Metastases Following Radiosurgery (METIS) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT02831959. NLM Identifier: NCT02831959

ongoing LUNAR trial in non-small cell lung cancer

A pivotal, randomized, open-label study of Tumor Treating Fields (150 kHz) concurrent with standard of care therapies for treatment of stage 4 non-small cell lung cancer following platinum failure

- 540 patients randomized 1:1
- Primary endpoint – overall survival (OS)
- Secondary endpoints include:
  - OS of TTFields + docetaxel vs docetaxel alone
  - OS of TTFields + immune checkpoint inhibitors vs immune checkpoint inhibitors alone
  - OS of TTFields + docetaxel vs immune checkpoint inhibitors alone



Novocure, Ltd. Effect of Tumor Treating Fields (TTFields) (150 kHz) as Second Line Treatment of Non-small Cell Lung Cancer (NSCLC) in Combination With PD-1 Inhibitors or Docetaxel (LUNAR) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000- [cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT02973789. NLM Identifier: NCT02973789

completed pilot EF-15 trial in lung cancer

A pilot, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with pemetrexed in pretreated patients with locally advanced non-small cell lung cancer

- 42 patients with comparison to historical controls
- Data published in *Lung Cancer* in September 2013

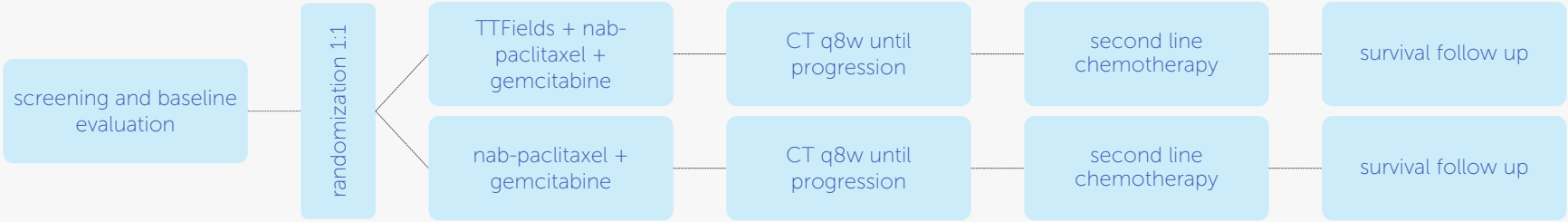
EFFICACY ENDPOINTS	TTFIELDS WITH PEMETREXED[1]	PEMETREXED-ALONE HISTORICAL CONTROL[2]
Median in-field PFS	6.5 months	n/a
Median PFS	5 months	2.9 months
Median OS	13.8 months	8.3 months
One-year survival rate	57%	30%
Partial response rate	15%	9%

Novocure, Ltd. NovoTTF-100L in Combination With Pemetrexed (Alimta®) for Advanced Non-small Cell Lung Cancer In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT00749346. NLM Identifier: NCT00749346 1. Pless, M., et al. *Lung Cancer*. 2013 Sep;81(3):445-50. 2. Hanna N, et al. *J Clin Oncol* 2004 May;22(9):1589–97.

ongoing PANOVA-3 trial in pancreatic cancer

A pivotal, randomized open-label study of Tumor Treating Fields (150 kHz) concomitant with gemcitabine and nab-paclitaxel for front-line treatment of locally-advanced pancreatic adenocarcinoma

- 556 patients randomized 1:1
- Tumor Treating Fields until local disease progression in the abdomen
- Primary endpoint – overall survival (OS)
- Secondary endpoints include PFS, objective response rate, rate of resectability, quality of life



Novocure, Ltd. Effect of Tumor Treating Fields (TTFields, 150 kHz) as Front-Line Treatment of Locally-advanced Pancreatic Adenocarcinoma Concomitant With Gemcitabine and Nab-paclitaxel (PANOVA-3) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT03377491. NLM Identifier: NCT03377491

completed pilot PANOVA trial in pancreatic cancer

A pilot, double arm, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with gemcitabine and nab-paclitaxel for frontline treatment of pancreatic adenocarcinoma

- 40 patients (2 cohorts of 20 patients) with comparison to historical controls
- Data published in *Pancreatology* in October 2018

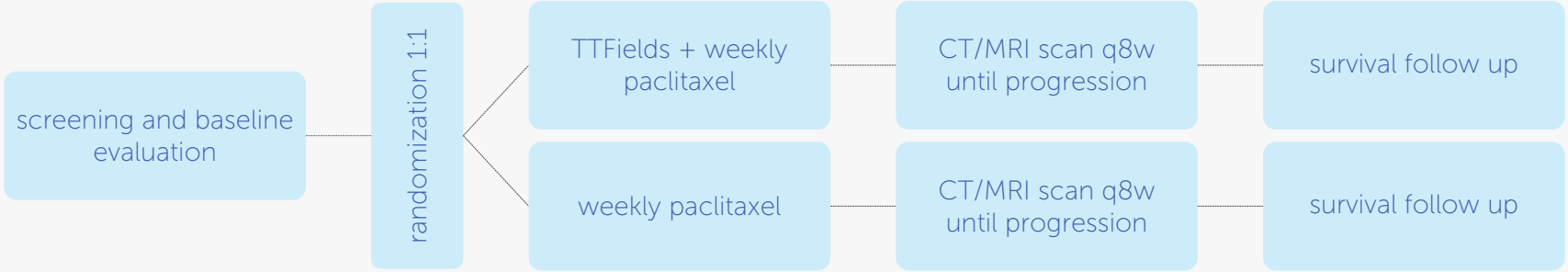
EFFICACY ENDPOINTS FOR SECOND COHORT	TTFIELDS WITH NAB-PACLITAXEL + GEMCITABINE[1]	NAB-PACLITAXEL + GEMCITABINE HISTORICAL RESULTS[2]
Median PFS	12.7 months	5.5 months
Median OS	Not yet reached	8.5 months
One-year survival rate	72%	35%
Partial response rate (PR)	40%	23%
Clinical benefit (PR plus stable disease)	87%	50%

Novocure, Ltd. Safety Feasibility and Effect of TTFields (150 kHz) Concomitant With Gemcitabine or Concomitant With Gemcitabine Plus Nab-paclitaxel for Front-line Therapy of Advanced Pancreatic Adenocarcinoma (PANOVA) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT01971281. NLM Identifier: NCT01971281 1. Rivera, F., et. al. *Pancreatology*. 2018 Oct 16. doi: https://doi.org/10.1016/j.pan.2018.10.004 . 2. Von Hoff D.D., et al. *N Engl J Med*. 2013 Oct 31;369(18):1691-703.

planned INNOVATE-3 trial in ovarian cancer

A pivotal, randomized open-label study of Tumor Treating Fields (200 kHz) concomitant with weekly paclitaxel for the treatment of platinum-resistant ovarian cancer

- 540 patients randomized 1:1
- Tumor Treating Fields until progression outside the abdomen/pelvis
- Primary endpoint – overall survival (OS)
- Secondary endpoints include PFS and objective response rate



Kirson, E.D., et.al. INNOVATE-3: Phase 3 randomized, international study of Tumor Treating Fields (200kHz) concomitant with weekly paclitaxel for the treatment of platinum-resistant ovarian cancer In: 2018 American Society of Clinical Oncology (ASCO) Annual Meeting; 2018 Jun 1-5; Chicago, IL. Abstract TPS5614.

completed pilot INNOVATE trial in ovarian cancer

A pilot, non-randomized, open-label study of Tumor Treating Fields (200 kHz) concomitant with weekly paclitaxel in patients with recurrent ovarian cancer

- 30 patients with comparison to historical controls
- Data published in *Gynecologic Oncology* in July 2018

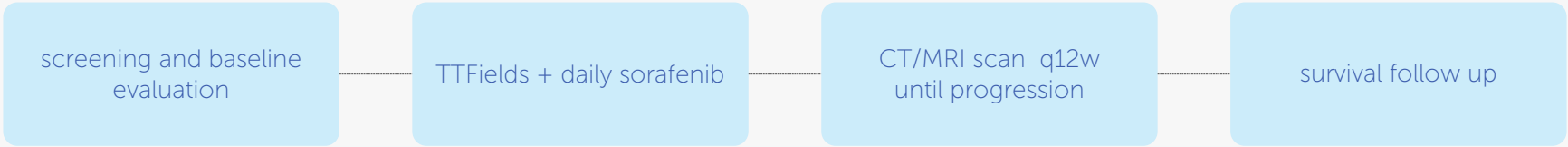
EFFICACY ENDPOINTS	TTFIELDS WITH PACLITAXEL[1]	PACLITAXEL ALONE HISTORICAL RESULTS[2]
Median PFS	8.9 months	3.9† months
Median OS	Not yet reached	13.2 months
One-year survival rate	61%	n/a

Novocure, Ltd. Safety, Feasibility and Effect of TTFields (200 kHz) Concomitant With Weekly Paclitaxel in Recurrent Ovarian Carcinoma (INNOVATE) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT02244502. NLM Identifier: NCT02244502 1. Vergote, I., et al. *Gynecol Oncol*. 2018 Sep;150(3):471-477. 2. Pujade-Laurain E., et al. *J of Clin Onc*. 2015 Nov 10;33(32):3836-8. †Median PFS reflects the weekly paclitaxel subgroup; Median PFS for all chemotherapies was 3.4 months

ongoing HEPANOVA trial in liver cancer

A phase 2 pilot trial of Tumor Treating Fields (150 kHz) concomitant with sorafenib for advanced hepatocellular carcinoma

- 25 patients
- Tumor Treating Fields until progressive disease per RECIST in the liver
- Primary endpoint – overall radiological response rate
- Secondary endpoints include in-field control rate, PFS at 12 months and OS at 1 year



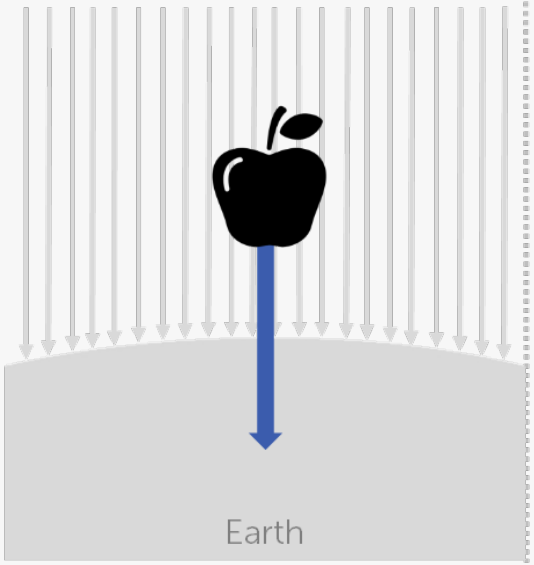
Novocure, Ltd. Effect of Tumor Treating Fields (TTFields, 150kHz) Concomitant With Sorafenib For Advanced Hepatocellular Carcinoma (HCC) (HEPANOVA) In: ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000-[cited 2018 October]. Available from: https://clinicaltrials.gov/ct2/show/NCT03606590. NLM Identifier:NCT03606590

additional presentation slides

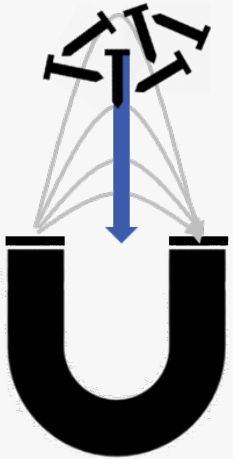
patientforward

electric fields exert forces on electrically polarized molecules

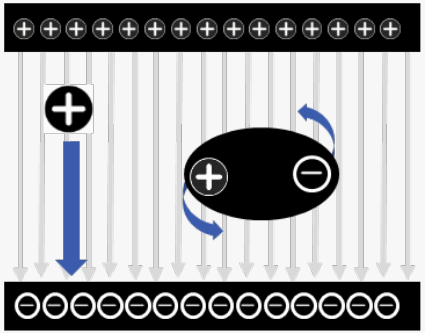
GRAVITATIONAL FIELDS
exert force on masses



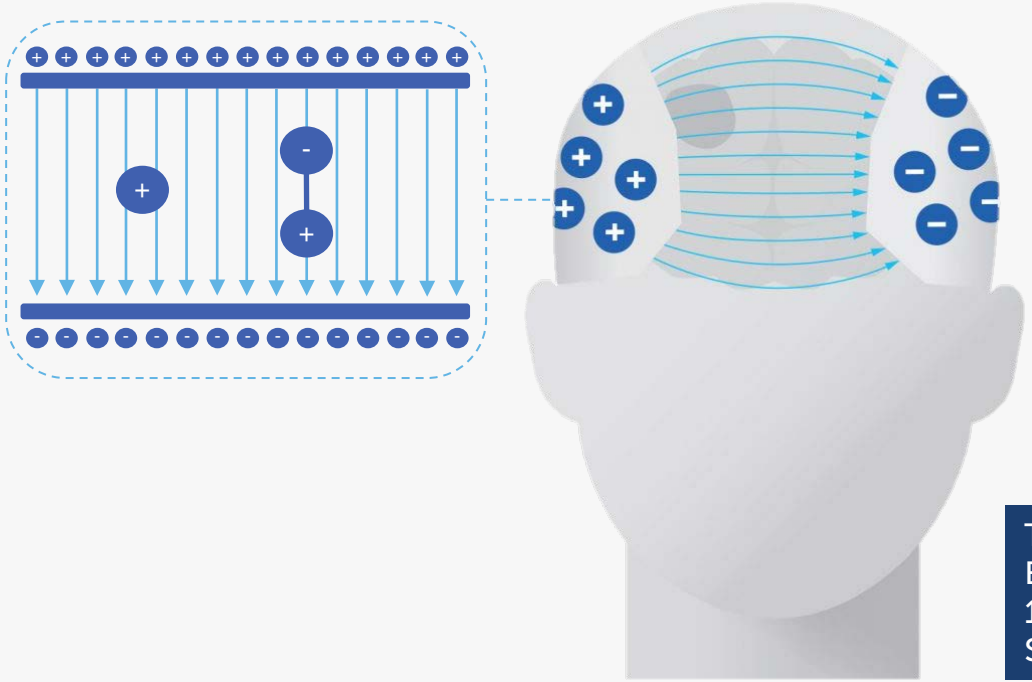
MAGNETIC FIELDS
exert force on iron
& other magnets



ELECTRIC FIELDS
exert force on charges
& polarized molecules

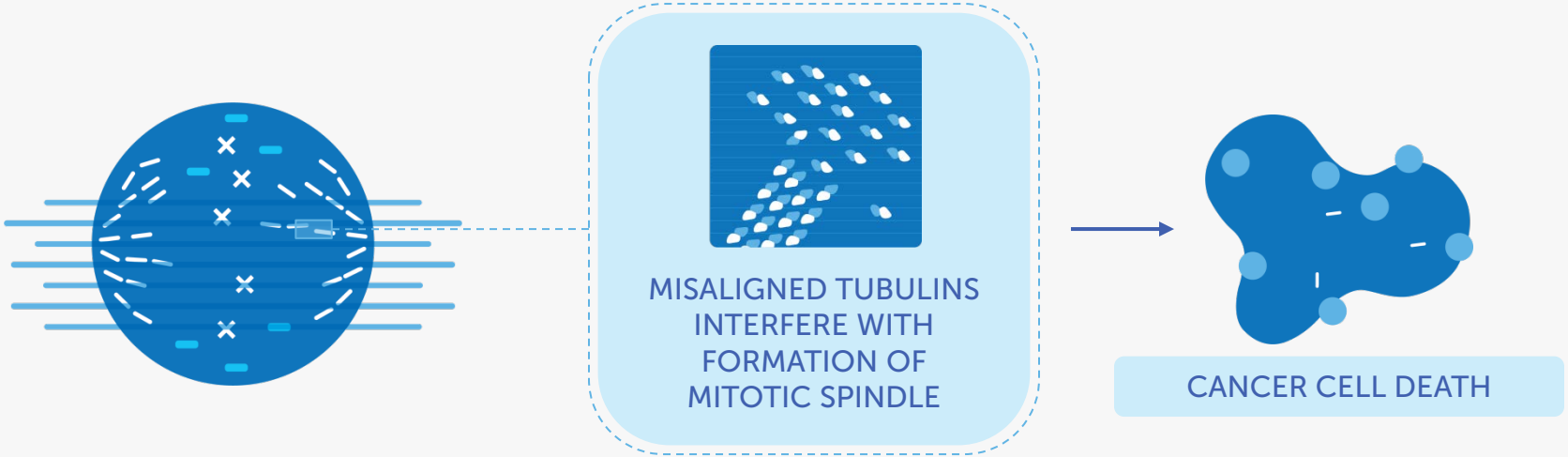


an electric field exerts forces on charged objects



TUMOR TREATING FIELDS DESCRIBES ELECTRIC FIELDS THAT ALTERNATE 100,000 TO 300,000 TIMES PER SECOND TO TARGET CANCER CELLS

Tumor Treating Fields uses alternating electric fields to disrupt cell division



a portable, wearable device that delivers Tumor Treating Fields

OPTUNE®
Elevate Expectations

ELECTRIC FIELD GENERATOR

TRANSDUCER ARRAYS

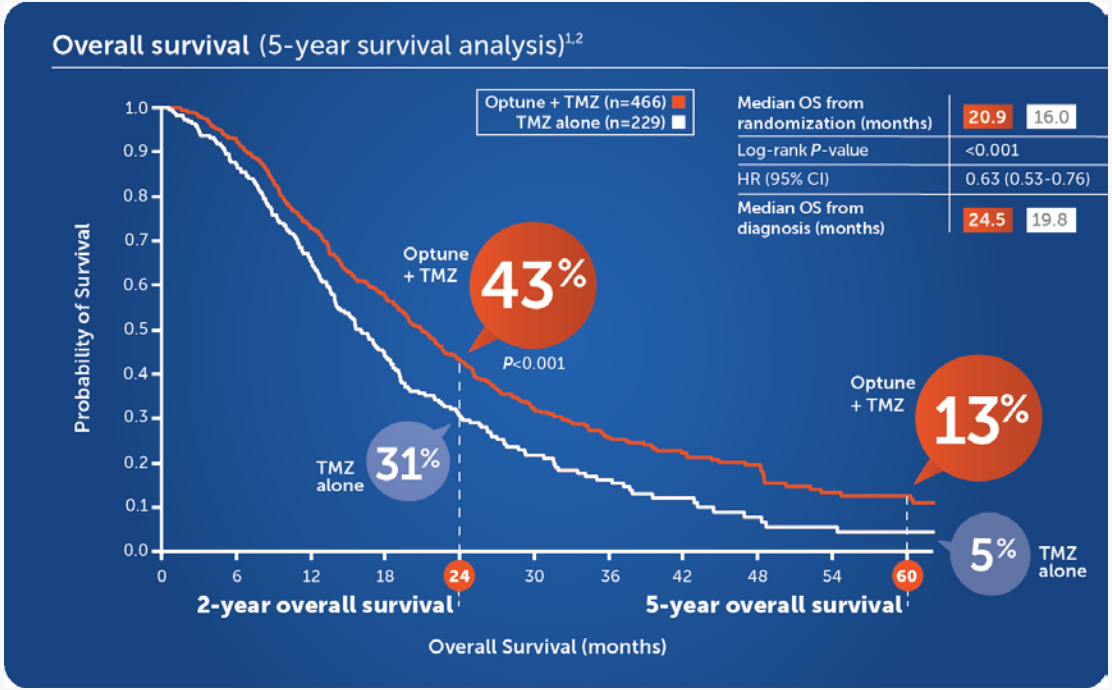
CONTINUOUS TREATMENT ALMOST ANYWHERE

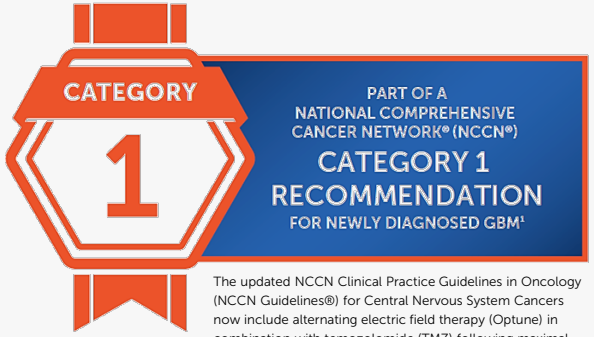
the Optune® system

ELECTRIC FIELD GENERATOR
Portable Tumor Treating Fields generator

TRANSDUCER ARRAYS
Sterile, single-use transducer arrays replaced at least two times per week

long-term, quality survival in newly diagnosed GBM





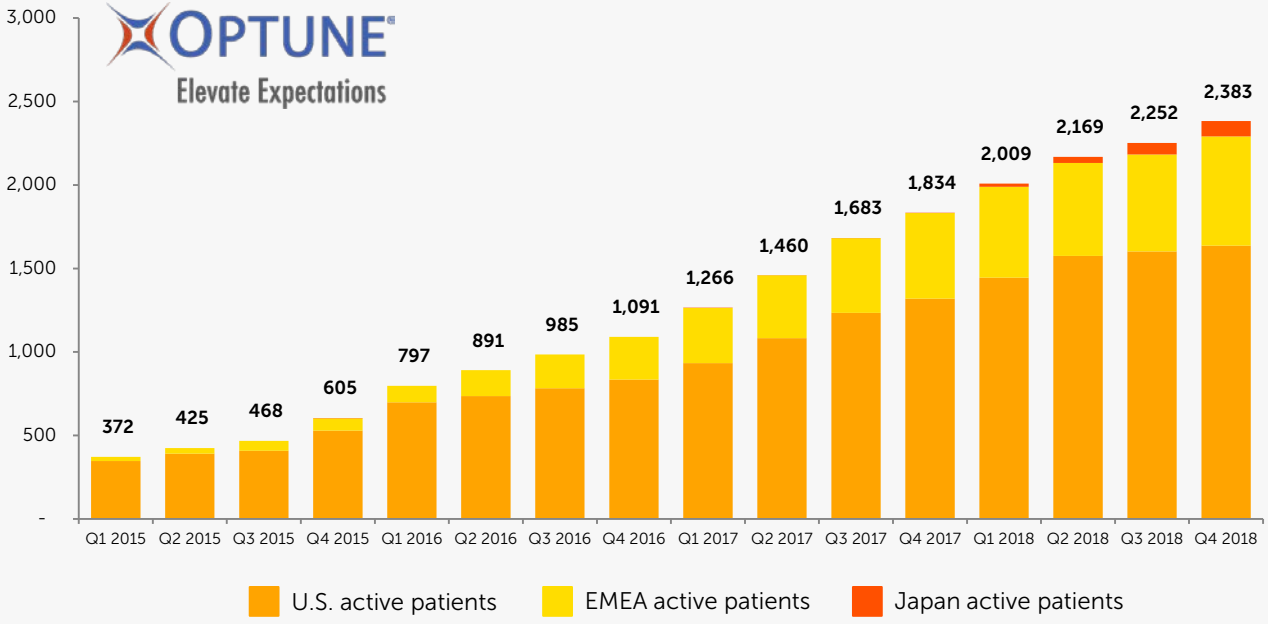
The updated NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Central Nervous System Cancers now include alternating electric field therapy (Optune) in combination with temozolomide (TMZ) following maximal safe resection and standard brain radiation therapy with concurrent TMZ as Category 1 recommended treatment option for patients with newly diagnosed supratentorial glioblastoma (GBM) and good performance status.* There is uniform NCCN consensus for this recommendation based on high-level evidence (Category 1).

GBM, glioblastoma; TMZ, temozolomide; OS, overall survival; ITT, intent-to-treat

1. Stupp, R., et al. *JAMA*. 2017 Dec 19;318(23):2306-2316.
2. Taphoorn, M.J.B., et al. *JAMA Oncol*. 2018 Apr 1;4(4):495-504.

continued growth in active patients

active patients at period end



16

CONSECUTIVE QUARTERS OF ACTIVE PATIENT GROWTH SINCE INITIAL PRESENTATION OF EF-14 DATA

10,000+

PATIENTS TREATED TO DATE GLOBALLY

robust intellectual property portfolio

140+

ISSUED PATENTS GLOBALLY
AS OF DECEMBER 31, 2018

- Layered patent strategy
- Expiration dates as late as 2036
- Numerous patents pending worldwide
- PMA approval pathway