CONSENT TO PARTICIPATE IN RESEARCH

A Randomized Phase III Clinical Trial of a New Vaccine for Brain Cancer

Title of Study: A Phase III Clinical Trial Evaluating DCVax®-L, Autologous Dendritic Cells Pulsed with Tumor Lysate Antigen for the Treatment of Glioblastoma

Protocol Number: 020221

Version: v 5.2, May 7, 2012

Sponsor: Northwest Biotherapeutics, Inc.

You are being asked to participate in a research study conducted by Drs. Linda M. Liau, Timothy F. Cloughesy, Marvin Bergsneider, Albert Lai, Isaac Yang, and Neil A. Martin, from the Department of Neurosurgery at the University of California, Los Angeles and sponsored by Northwest Biotherapeutics, Inc. (NWBT). You qualify to participate in this study because you have a diagnosis of brain cancer (glioblastoma) that may not be treated optimally by standard treatment alone. The goal of this clinical trial is to test the safety and effectiveness of an investigational vaccine called DCVax®-L. The total number of subjects to be involved in this study is 288 (approximately 192 study vaccine subjects and 96 control subjects), at multiple study sites in the United States. The approximate number of subjects to be enrolled at UCLA is 28. The duration of your participation in this study is approximately 36 months. In addition, long-term progression or re-growth of your brain cancer as well as survival, or overall survival will be followed beyond the 36 months of the clinical trial.

Your participation in this study is entirely voluntary. You should read the information below, and ask questions about anything you do not understand, before deciding whether or not to participate. A description of this clinical trial will be available on http://www.ClinicalTrials.gov as required by U.S. Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this website at any time.

- DISCLOSURE STATEMENT
Your health care provider may be an investigator of this research study, and as an investigator, is interested in both your clinical welfare, and in the conduct of this study. Before entering this study or at any time during the research, you may ask for a second opinion about your care from another doctor who is no way associated with this study. You are not under any obligation to participate in any research study offered by your physician.

Date of Preparation: 11/7/12
• **PURPOSE OF THE STUDY**

This is a randomized study. This means that you will have a 2 in 3 chance of being assigned to the vaccine study arm and a 1 in 3 chance of being assigned to the placebo study arm, even if you meet all the eligibility criteria. This assignment will be determined by chance, in a process similar to drawing cards or flipping a coin. This means your assignment to the vaccine or placebo study arm is based on chance rather than a medical decision made by the study doctor. Neither you nor your doctor will know whether you are receiving DCVax-L or placebo.

The purpose of this clinical trial is to determine whether DCVax-L can slow the growth and recurrence of your brain tumor and whether DCVax-L can extend overall survival. Other goals of this trial are to test the safety and activity of DCVax-L and to determine whether the study agent causes an immune response against your cancer cells as compared to standard treatment or another experimental treatment.

The clinical trial will consist of three phases: the initial evaluation phase (also known as the screening phase), the active treatment phase, and the follow-up phase. During the evaluation phase you will undergo some testing noted below to indicate whether you can participate. The next phase, the active treatment phase, is when patients are treated with DCVax-L or placebo. During this phase, which lasts up to 36 months, you will be asked to return to the clinic once every two months for MRIs and other tests as outlined below under Study Visits Procedures to determine how you are doing. During the follow-up phase, which starts after the 36 months is completed or after you leave the trial for any reason, you and/or a designated contact will be contacted every third month to collect medical history including data on long-term progression or re-growth of your brain cancer as well as survival data. Please read the section titled Follow-Up Information.

DCVax-L consists of two components: autologous (your own) immune cells called dendritic cells (DC) and part of a substance prepared from your tumor cells.

**Dendritic cells (DC):** They are a type of white blood cells involved in your immune system. Your white blood cells will be collected from your body and shipped to a laboratory where the DC will be purified and grown. Dendritic cells may be able to teach your immune system to recognize and destroy cancer cells.

The placebo for this trial consists of a preparation of your own white blood cells. This substance will not generate an immune response against your cancer cells.

**Tumor cell derived material:** When your tumor was removed during surgery, a small part of your tumor specimen was sent to a laboratory where the tumor cells were broken up to prepare the second component of the experimental study vaccine. The tumor tissue was treated with substances that initiated chemical reactions to obtain proteins from the breakdown of your tumor cells (“tumor lysate”). Your tumor cell-derived material will be combined with your DC so that the DC take up parts of the tumor cell substance and form the experimental study...
vaccine, DCVax-L. When the study vaccine is injected back into your body, it may activate your immune system to destroy brain cancer cells.

**PROCEDURES**

*For subjects enrolled under Protocol Version 4.0 in the Transitional Non-randomized Arm, please skip this procedure section and read and sign the Transitional Non-randomized Procedures Document. Your physician and study coordinator will know if you need to skip this section only and read and sign the Procedures document.*

All subjects who have undergone the leukapheresis will receive up to 10 injections of the study agent or placebo over the course of 3 years, except for those patients for whom it is determined that it is not safe for them to receive either treatment. All patients in the study will be followed for the collection of data related to progression or re-growth of brain cancer, and survival for a period of up to 36 months. In addition, long-term progression or re-growth of your brain cancer as well as survival, or overall survival will be followed beyond the 36 months of the clinical trial.

If you volunteer to participate in this study, we would ask you to do the following things:

**Screening Procedures (Pre-Leukapheresis Visit)**

- Undergo a physical examination.
- Have your medical history taken.
- Have your blood drawn, approximately 3½ ounces (103 ml or 7 tablespoons).
- Give a urine sample of about an ounce (or 2 tablespoons).
- Have a pregnancy test (if you are female and fertile).
- Have your vital signs taken (blood pressure, temperature, pulse and respirations) as well as your height and weight.
- You will be asked about any side effects, if any, that you may be experiencing.

When all your pre-leukapheresis screening tests have been evaluated, you will be notified if you might be eligible to undergo leukapheresis for the clinical trial.

**Preparation of Tumor Cells**

Before you had surgery, you signed a consent form agreeing to donate a sample of your tumor for clinical research purposes. If you choose to participate in this clinical trial, the tumor cells will be used to prepare tumor cell material that will become part of the study vaccine, DCVax-L.

**Leukapheresis**

After your Pre-Leukapheresis Visit, if you meet the screening entry criteria and have been declared eligible for the DCVax-L clinical trial, your white blood cells will be collected by a procedure called “leukapheresis” at the UCLA Apheresis Unit. This procedure is similar to donating blood and may take up to 4 hours for one day. A needle is inserted into one arm and blood is withdrawn and passed through a machine that removes only

*Date of Preparation: 11/7/12*
white blood cells. The rest of the blood is returned to you through a needle in your other arm. You must sign a separate consent form for this procedure.

Before the leukapheresis procedure, you will be seen by one of the nurses in the leukapheresis unit to determine if your arm veins are large enough for this procedure. If the nurses do not think your veins are large enough, a small flexible tube called a “catheter” must be placed in the large vein in your groin area. This procedure will be performed by a surgeon as an outpatient procedure. You must sign a separate consent form for this procedure. These materials are used to prepare the DC that are part of the study drug.

After your white blood cells are collected, they will be shipped to a laboratory to make your specific study vaccine, DCVax-L ®™ and the placebo. This process takes several weeks. This material will then be sent back to UCLA so you can receive it as an injection into your arm.

If we do not acquire enough tumor cell-derived material, you will not be able to receive any DCVax-L experimental injections. If not enough dendritic cells are obtained, you will have the option to undergo an additional leukapheresis to determine if sufficient dendritic cells can be made for your treatment.

Screening Procedures (Baseline Visit)
At the Baseline Visit, we will ask you to complete the following non-experimental procedures to determine whether you continue to meet the study enrollment criteria:

- Undergo a physical examination (including height and weight) and a neurologic exam.
- Have your vital signs taken (blood pressure, temperature, pulse, and respirations).
- Have your doctor complete a Karnofsky Performance Status (KPS) form to document how well you are able to carry out daily activities such as eating, bathing, and dressing yourself.
- Undergo an MRI of your brain.
- Have your blood drawn, approximately 3½ ounces (30 ml or 7 tablespoons). One of the blood tests done for this study is for HIV; you must sign a separate consent form for this test.
- Have a pregnancy test (if you are female and fertile).
- You will be asked about any side effects, if any, that you may be experiencing.

When all of your tests have been evaluated, you will be notified whether you are eligible to participate in the DCVax-L clinical trial.

Sometimes, it is difficult to be sure that the brain tumor has not continued to grow during the radiation therapy treatment period. If this happens, you will be asked to return for a repeat Baseline Visit approximately 10 weeks after you complete radiation therapy. This decision is based on review of the MRI of your brain.
Study Visits, Procedures and Schedule

At each study visit, which occur every 2 months during the active treatment phase, you will be seen by your health care provider or one of the study doctors. You will have a physical exam, a neurological exam, and a Karnofsky Performance Status form will be completed. A blood sample will be drawn for both routine and research tests, approximately 7 tablespoons of blood will be taken each time. At eight of the study vaccine administration visits (with the exception of study crossover), an additional 7 tablespoons will be taken to monitor your immune response. These visits are Day 0 (first study vaccine administration), Day 20 (third study drug administration), then 4 months, 8 months, 12 months, 18 months, 24 months, and 30 months.

You will have a brain scan (MRI) on all follow-up visits, i.e. every 2 months. Visits where MRIs are taken will last about 1 hour.

You will be asked to provide a urine sample at the last of the scheduled visits.

A minimum of 5 and up to 10 doses of DCVax-L or placebo will be administered into your arm, under your skin at day 0, 10 and 20 and at months 2, 4, 8, 12, 18, 24, and 30. Each visit will require you to return to the investigational site for approximately 2-3 hours. Some patients may not receive 10 immunizations due to insufficient material. If your supply of DCVax-L runs out, you will be switched to the placebo preparation without either you or your doctor knowing about it. Each administration will require two injections. You will be observed in the clinic for 2 hours after the injections, and have your vital signs (blood pressure, heart rate, temperature, and respirations) taken. You will be asked about side effects, if any, that you might experience.

If it is determined that you have disease progression, you will be offered a crossover (open label) option to receive DCVax-L after progression has been verified.

Please refer to the Table on the last page of the consent form for all the procedures required at the scheduled study visits. During the follow-up phase, which starts after the 36 months is completed or after you leave the study for any reason, you and/or a family member or your other designated contacts will be contacted every third month to ask how you are doing for the rest of your life.

Study Subject’s Responsibilities

At each visit described above, you will be asked to tell your physician or nurse about any medications that you have taken since your last visit. If any of your physicians outside of the trial prescribes other medications, you will be asked to tell your study physician or nurse right away.

During the clinical trial, you will be prohibited from taking steroids except as replacement therapy, chemotherapy other than Temozolomide which is standard of care,

Date of Preparation: 11/7/12
or other immune suppressing medications. Combining the study vaccine with other drugs might cause side effects that would not be seen if each drug were given alone.

You will also be prohibited from taking or receiving any other experimental therapies or treatments during your participation in this trial.

You will also be asked to tell your physician and nurse about any symptoms, illnesses, or surgeries or procedures that you have had or are schedule to have.

**Follow-up Information**
Long-term information will be collected approximately every 3 months after your active participation in the trial. It will be important to monitor the long-term effects and learn more about the effects of the study drug. Long-term follow-up information may be collected from your medical record, and your doctor or their staff may call you by telephone. In order to be sure that you can be reached, you will be asked to verify your contact information periodically during your participation in the study. The doctor of his/her staff may ask you about:

- Your current medical status
- Long-term effects of the study drug
- Your glioblastoma-related health, recorded information about your treatments (including medications taken, procedures done, and results of laboratory test)

If you are unable to answer questions or if you should die, even if it is a long time after you enter this study, we will contact your closest relative or legal representative by telephone to get information about your survival status.

**POTENTIAL RISKS AND DISCOMFORTS**

**DCVax-L**
A potential side effect of injecting DCVax-L or the placebo preparation is a reaction at the site of injection, including redness, swelling, itching, pain or open sores in the skin. These injection site reactions may take several weeks to heal and may flare with next injections. Mild to high-grade fever and/or fatigue may occur with other side effect of the injections.

DCVax-L and the placebo preparation may cause allergic reactions. Symptoms may include skin rash, itching, hives, wheezing, shortness of breath, nausea, vomiting, changes in heart rate, a decrease in blood pressure, and/or fainting. There may be a potential for life-threatening allergic reactions, but none have been reported to date.

There may be a risk of developing an autoimmune disease (a condition in which your immune system attacks your own body). Autoimmune disease was not seen in a previous study for brain cancer patients using a similar vaccine.

The adverse reactions observed in the previous study were: site injection reaction, injection site itching, fatigue, fever, headache, muscle pain, joint pain, inflammation of
the skin, central nervous system disturbances, peripheral nervous system disturbances, diarrhea, nausea, dizziness, vomiting and speech problems. These may or may not be related to the study vaccine. There may be unknown side effects associated with this experimental vaccine that could lead to serious side effects.

Neither DCVax-L nor the placebo have been tested in pregnant women; therefore, the risks to the patient and unborn child, are not known. Patients must not become pregnant during the clinical trial and must practice effective contraception during the course of the trial.

The study injections may be associated with the risk of infection due to potential contamination of the dendritic cells in the laboratory, which may lead to injection of a product infected with bacteria/fungus. This may result in localized redness, swelling, or an area of hardening at the injection site. In the most extreme situation, this may lead to generalized bacterial/fungal infection and possibly death. The probability of this risk is relatively low, given the small injection volume (1 ml under the skin) and the fact that the dendritic cells will be strictly tested for sterility prior to each injection.

Swelling in the brain may be secondary to the disease process itself, the surgical procedure, dead tissue from previous radiation, or inflammation due to the entrance of immune cells into the brain or destruction of tumor cells. Symptoms may include, but are not limited to, severe headache, confusion, sleepiness, unresponsiveness, coma, or specific neurological brain dysfunction. If you develop any signs or symptoms of swelling in the brain you may need treatment with steroids or a drug to promote fluid excretion, or further surgical removal of diseased brain tissue. Swelling that fails to respond to aggressive therapy can lead to permanent brain damage. The probability of this risk can be predicted to some degree based on tumor size, location, pre-operative neurological impairment, and post-operative course prior to study injections.

Leukapheresis

Serious adverse reactions to leukapheresis are extremely rare because your blood never leaves the sterile tubing circuit and every precaution is taken to ensure safety. The insertion of intravenous needles is the only uncomfortable part of the apheresis process. You may experience mild side effects such as chills, a tingling sensation on your face or body, or lightheadedness. You will be instructed to limit your activities for several hours afterwards.

One common side effect from the apheresis procedure is caused by the medication used to prevent clotting called citrate, which may cause a drop in the concentration of calcium in your blood. The first symptoms of this occurring are tingling, vibrating, or a numb feeling of the face, lips, teeth, hands, or feet. You will be instructed to tell the nurse immediately if you have any of these symptoms. You will be given calcium replacement to prevent or treat these symptoms.

Date of Preparation: 11/7/12
There are rarely serious complications resulting from use of the blood cell separator. These include but are not limited to air entry into the bloodstream, infection, shock, irregular heartbeat or heart failure. Also, as in any donation of blood, there are a variety of minor reactions that may occur such as fainting, dizziness, nausea, and bruising/swelling around the needle site. In rare instances, the small amount of blood remaining in the tubing cannot be returned to the patient. Any feeling of discomfort experienced during or after should be brought to the attention of the UCLA Leukapheresis Unit staff. If any complications arise, the Leukapheresis nurse and medical staff will provide immediate treatment.

If you do not have adequate veins in the arms for leukapheresis, an experienced physician will put in a groin catheter. This procedure may be painful. An expected side effect is a reaction at the insertion site, including redness or skin ulceration. Shortly after the insertion of the catheter, the site may be slightly red and swollen. There is a small chance of bleeding or infection as a result of the catheter insertion. Sterile technique will be used for this procedure. One of the rare but serious effects of leukapheresis and catheter placement is development of a blood clot in the vein where the catheter is placed.

**Blood Draw**

There are possible effects that can occur from having your blood drawn. You could possibly develop a bruise, redness, or soreness at the site where the needle was put in to draw your blood. You may feel dizzy or faint when your blood is drawn. If you have ever fainted while having your blood drawn, you should inform the person drawing your blood before the procedure.

**MRI Scans**

The risks and/or discomforts associated with the MRI scans include anxiety from being in a tight, enclosed space (claustrophobia). In addition, the machine operates using a large and very powerful magnet. If you have a cardiac pacemaker or any other biomedical device in or on your body, it is very important that you tell the operator/investigator immediately. As metallic objects may experience a strong attraction to the magnet, it is also very important that you notify the operator of any metal objects (especially surgical clips), devices, or implants that are in or on your body before entering the magnet room. You will also be checked to make sure that you do not bring any metal objects into the MRI room with you. The “metal” in dental fillings is less affected by the MRI and is therefore allowed.

During your MRI, you will be given contrast dye. This dye is given routinely to patients who get MRI scans of the brain. The dye is given by the vein and requires the placement of a catheter. The catheter placement is similar to drawing blood except that the needle is left in the vein during the time the dye is delivered. The risks of a blood draw and insertion of a catheter are similar. There have been a few, rare cases of allergies to the dye used in the MRI.

*Date of Preparation: 11/7/12*
Recently, it has been reported that a rare but serious adverse reaction called nephrogenic systemic fibrosis (NSF) may occur after exposure to the gadolinium-based contrast agent gadodiamide (Omniscan®, GE Health Diagnostic, Amersham, United Kingdom). Nephrogenic systemic fibrosis is a condition wherein patients develop large areas of hardened skin with lesions called plaques and papules with or without skin discoloration. In some cases, NSF could lead to physical disability and may involve not only the skin, but also the liver, lungs, muscles and heart. The typical patient in whom this has occurred is middle-aged and has end-stage kidney disease.

Other risks may be unknown side effects associated with DCVax-L that could lead to serious consequences.

- **ANTICIPATED BENEFITS TO SUBJECTS**
  
  Based on experience with this DCVax-L® in patients with similar disorders, researchers believe it may be of benefit to subjects with your condition. Of course, because this procedure is experimental and individuals respond differently to therapy, no one can know in advance if it will be helpful in your particular case. The potential benefits may include:

  DCVax-L® may stimulate a specific immune response and may cause the brain cancer to stop growing or to shrink. However, because this is an experimental procedure, your condition may not improve as a result of participating in this research. You have the right to refuse to participate in this study.

- **ANTICIPATED BENEFITS TO SOCIETY**
  
  By your participation in this study, you may help in the development of better treatments for brain cancer beyond what is presently available. The information collected in this research may help scientists better understand the mechanisms involved in the immune system’s ability to fight brain cancer. If this understanding comes from this research, it may benefit society by leading to the advancement of medical knowledge and/or development of improved treatment methods for future patients with brain cancer.

- **ALTERNATIVES TO PARTICIPATION**
  
  In all cases, patient participants in the study will undergo surgical treatment of brain cancer followed by radiation therapy and concurrent temozolomide (Temodar) chemotherapy. This is currently considered standard of care for your disease. Chemotherapy is FDA approved for brain cancer, with an approximately 30% response rate and slight increase in survival for those who respond to treatment. Beyond this, there are no standard treatments for brain cancer that have proven to be effective. All patients will receive similar medical care for their disease.

  There are alternative treatments that may be helpful if you choose not to participate in this study, or if you decide to withdraw from the study. These include a different...
consent form for medical research

page 10 of 15

chemotherapy, therapy with other experimental agents, or no therapy. Treatment of symptoms and pain control are available through supportive care such as, hospice, home health care, clinics, private physicians, etc. Your doctor will discuss these options with you.

- **PAYMENT FOR PARTICIPATION**
  You will not be paid or offered other benefits for participating in this study. As you will be asked to come to UCLA for multiple research-related visits, you will be reimbursed for parking at UCLA.

- **POSSIBLE COMMERCIAL PRODUCTS**
  Any specimens (e.g., tissue, blood, urine) obtained for the purposes of this study will be provided to and owned by Northwest Biotherapeutics, Inc. These specimens will not include information that identifies you directly. Once you provide the specimens you will not have access to them. The specimens will be used for research and such use may result in discoveries that could become the basis for new products or therapeutic agents. In some instances, these discoveries may be of potential commercial value. You will not receive any money or other benefits derived from such a product.

- **FINANCIAL OBLIGATION**
  DCVax-L® is an investigational treatment and it will be supplied to you at no cost. It is possible that your insurance will not pay for all of the treatments and tests you will receive if you participate in the research. That is because many insurance companies, HMOs, and health benefits plans do not cover experimental treatments. If that happens, the charges you will have to pay will be as follows:

  - Part or all of the routine clinic visits and all standard medical care, tests, and procedures that are not paid for by your insurance company.

  All research-related costs will be paid for by the sponsor of this study, Northwest Biotherapeutics, Inc. The study sponsor will pay for the costs of the apheresis and catheter placement procedures, the cost of the actual catheter itself, the preparation and injection of the study vaccine, the virology testing, and assays for immune monitoring.

- **EMERGENCY CARE AND COMPENSATION FOR INJURY**
  If you are injured as a direct result of research procedures, you will receive treatment at no cost. The University of California and/or Northwest Biotherapeutics, Inc. do not normally provide any other form of compensation for injury.

- **PRIVACY AND CONFIDENTIALITY**
  The only people who will know that you are a research subject are members of the research team and, if appropriate, your physicians and nurses. No information about you, or provided by you during the research, will be disclosed to others without your written permission, except:

  
  
  date of preparation: 11/7/12
- if necessary to protect your rights or welfare (for example, if you are injured and need emergency care); or
- if required by law.

When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. If photographs, videos, or audio-tape recordings of you will be used for educational purposes, your identity will be protected or disguised. You will be identified by patient number only, and your face will be obscured. You will not be identified in any reports or publications resulting from this study without your expressed consent.

Authorized representatives of the Food and Drug Administration (FDA), the National Regulatory Authority (NRA), the sponsor of this clinical study, Northwest Biotherapeutics, Inc., and its designees, the DSMB (Data Safety Monitoring Board), the National Institutes of Health (NIH), and representatives of the UCLA Office of the Human Research Protection Program may need to review records of individual subjects. As a result, they may see your name; but they are bound by rules of confidentiality not to reveal your identity to others.

Your privacy will be protected throughout the study by using coded numbers to identify your samples and not your name. Linking information will be kept in locked files that are accessible only to the investigators directly affiliated with this study. The blood/tissues collected may be kept indefinitely. However, once this study is completed, your remaining samples will be anonymized by destroying all information on the samples themselves that may directly or indirectly link them to you.

Each tissue and fluid sample contains genetic information about your parents and ancestors such as the information contained in DNA, RNA, or protein. It may be helpful to study members of your family. Your relatives will not be contacted without your permission.

• **GENETIC INFORMATION IN YOUR SAMPLE: POSSIBLE LIMITS TO INDIVIDUAL CONFIDENTIALITY**

Every tissue or fluid sample contains genetic information. Recent studies have found normal and disease producing genetic variations among individuals. Such variations may permit identification of individual participants. Despite this possible limitation, every precaution will be taken to maintain your confidentiality now and in the future.

We have learned from past research that we will not always be able to predict future research findings and new technologies. You should be aware that unforeseeable problems may arise from new developments.

• **PARTICIPATION AND WITHDRAWAL**

Your participation in this research is VOLUNTARY. If you choose not to participate, that will not affect your relationship with UCLA (or UCLA Medical Center), or your right to health care or other services to which you are otherwise entitled. If you decide to
participate, you are free to withdraw your consent and discontinue participation at any
time without prejudice to your future care at UCLA.

- **WITHDRAWAL OF PARTICIPATION BY THE INVESTIGATOR OR SPONSOR**
  The investigator or Northwest Biotherapeutics, Inc. may withdraw you from participating
  in this research if circumstances arise which warrant doing so. If you experience any
  serious side effects that you cannot tolerate, if you have tumor progression during the
  study, or if you become ill during the research, you may have to drop out, even if you
  would like to continue. The principal investigator, Dr. Linda Liau, will make the decision
  and let you know if it is not possible for you to continue. The decision may be made
  either to protect your health and safety, or because it is part of the research plan that
  people who develop certain conditions may not continue to participate. Your study
doctor, a regulatory authority (like the FDA), or Northwest Biotherapeutics, Inc. may stop
the study at any time with or without your consent. Your study doctor may choose to take
you out of the study because you are not following instructions or, in his/her opinion, you
are not doing well or your safety or well-being is in question.

- **NEW FINDINGS**
  During the course of the study, you will be informed of any significant new findings
  (either good or bad), such as changes in the risks or benefits resulting from participation
  in the research or new alternatives to participation, which might cause you to change your
  mind about continuing in the study. If new information is provided to you, your consent
to continue participating in this study will be re-obtained.

- **IDENTIFICATION OF INVESTIGATORS**
  In the event of a research related injury or if you experience an adverse reaction, please
  immediately contact one of the investigators listed below. If you have any questions
  about the research, please feel free to contact:

  **Principal Investigator:** Dr. Linda M. Liau at (310) 267-2621,
  **Co-Investigators:**
  Dr. Timothy F. Cloughesy at (310) 825-5321
  Dr. Marvin Bergsneider at (310) 206-4100,
  Dr. Neil A. Martin at (310) 825-5482,
  Dr. Isaac Yang at (310) 267-2621,
  Dr. Albert Lai at (310) 825-9113.

  For night/emergency hours, any of the above investigators can be reached via the UCLA
  page operator at (310) 825-6301.

- **RIGHTS OF RESEARCH SUBJECTS**
  You may withdraw your consent at any time and discontinue participation without
  penalty. You are not waiving any legal claims, rights or remedies because of your
  participation in this research study. If you have questions regarding your rights as a
  research subject, you may contact the Office of the Human Research Protection Program,
  UCLA, 11000 Kinross Avenue, Box 951694, Los Angeles, CA 90095-1694, (310) 825-
  5344.

  *Date of Preparation: 11/7/12*
SIGNATURE OF RESEARCH SUBJECT

I have read (or someone has read to me) the information provided above. I have been given an opportunity to ask questions and all of my questions have been answered to my satisfaction. I have been given a copy of this form, as well as a copy of the Subject's Bill of Rights.

BY SIGNING THIS FORM, I WILLINGLY AGREE TO PARTICIPATE IN THE RESEARCH IT DESCRIBES.

________________________________________
Name of Subject

________________________________________   __________________
Signature of Subject               Date

Please initial one of the two choices below:

I agree to donate any extra cells to Northwest Biotherapeutics for future research and development on a cancer vaccine.

Yes__________           No__________

SIGNATURE OF INVESTIGATOR

I have explained the research to the subject and answered all of his/her questions. I believe that he/she understands the information described in this document and freely consents to participate.

________________________________________
Name of Investigator

________________________________________   __________________
Signature of Investigator               Date (must be the same as subject’s)
### Immunizations

| Visit | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  | End of Treatment | Survival Follow-up |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Temodar (Stupp Protocol)<sup>a</sup> |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Consent to collect tumor | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Collection of tumor | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Consent to Study | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| History | X<sup>c</sup> |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Enrollment & Randomization |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Physical Exam |     | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   |
| Neurological Exam |     | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   |
| Vital Signs |     | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   |
| Karnofsky Performance Score or Health Status |     | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   | X   |
| MRI of brain | X<sup>d</sup> | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CBC and Differential | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Blood Chemistry<sup>f</sup> | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Urinalysis | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Pregnancy test | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| anti-DNA<sup>g</sup> |     | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Virology Testing<sup>b</sup> | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Leukapheresis | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Blood for Immune Monitoring<sup>i</sup> | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Injection of Study Drug<sup>i</sup> | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Adverse Event (negative side effects) Assessment | X   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Survival<sup>h</sup> |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<sup>a</sup> Protocol ID:IRB#11-000686    UCLA IRB Approved   Approval Date: 11/20/2012   Through: 11/19/2013   Committee: Medical IRB 2
Footnotes to Schedule of Events

a) See Appendix B for treatment guidelines

b) Tests done at the baseline visit complete Screening examinations. The patient must meet all eligibility criteria verified at screening to be enrolled in the investigational arm of the study. Patients with progressive disease at baseline, or who are otherwise ineligible for the investigational arm of the study, will be enrolled in the informational arm.

c) Limited history to assess potential study eligibility, including age, absence of prior malignancies including other brain cancers, no bilateral disease, no known HIV-1,2 infection, no conflicting prior treatments.

d) Time 0, the day of the first injection, takes place approximately 1 week after the baseline visit (Visit 5).

e) MRI done 1-3 days after surgery

f) Comprehensive metabolic panel, including electrolyte balance, and hepatic and renal functions.

g) Anti-DNA antibodies are measured as markers of induced autoimmunity.

h) Virology testing is performed prior to leukapheresis and includes the following: HbsAg, a-HIV-1, a-HIV-2, HIV-1p24Ag, a-HCV.

i) Ten (10) 10mL Green-Top tubes of whole blood plus one Red-Top tube are drawn at Time 0. Subsequent blood draws for immune monitoring are drawn prior to injection and require ten 10mL Green-Top tubes plus one Red-Top tube. After the blood draw, the tubes are shipped to the research laboratory of Cognate BioServices, Inc., Baltimore, MD, for development of immune monitoring tests.

j) A sufficient amount of DCVax-L or autologous PBMC is shipped to the site for up to 10 i.d injection visits (2 injections for each visit). Some patients may not receive 10 immunizations due to insufficient material.

k) Survival follow-up will be conducted through quarterly phone calls.

Date of Preparation: 11/7/12