BRAIN DONATION TO ADVANCE THE SCIENCE OF NARCOLEPSY

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Reduced Number of Hypocretin Neurons in Human Narcolepsy

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The hypothalamus of 16 human brains, including four narcoleptics and 12 neurologically normal individuals, were immunostained for Hcrt. Three of the narcoleptic brains had been in 10% formalin fixative for 4–5 years. A fourth was moved from formalin to a sodium azide solution shortly after fixation and remained refrigerated in this solution at 4° C for 12 years. We found that it was necessary to use antigen retrieval techniques (Jiao et al., 1999) on all the narcoleptic brains to stain the Hcrt neurons.
Brain donation is critically needed

One out of every six people is suffering from a devastating neurological disorder or disease. That's why brain donation is critically needed. Americans are now living longer than ever—the number of people in our population with disorders will rise significantly. Brain donation will help increase the availability of brain tissue for study to find answers & treatments for these diseases.
Brain Donation
The study of human brain tissue is likely to yield invaluable information on the development of narcolepsy. An ongoing shortage of available brain tissue currently limits promising new research. You will leave behind a lasting legacy to the narcolepsy community by arranging for a post-mortem brain donation TODAY with one of the following organizations:

• **Stanford University’s Center for Narcolepsy** has established a Brain Donation Program for the purpose of collecting and preserving the brains of persons with narcolepsy. Brain tissue from this bank will be made available only to narcolepsy researchers. It is highly advised that information be obtained and arrangements be made in advance, since there are specific procedures which must be followed. You can find more information and register for the program on [Stanford’s website](#).

• The **National Brain Bank for Narcolepsy Research** (UCLA/West LA VA Medical Center) has been established in collaboration with Wallace W. Tourtellotte, M.D., Ph.D. of UCLA and the VA West Los Angeles Healthcare Center. An Advisory Committee consisting of internationally recognized narcolepsy experts evaluates requests for the use of the brains and will distribute the tissue according to the likelihood that the proposed investigations will lead to major advances in the treatment of narcolepsy. To request an information packet or for further information, contact Dr. Tourtellotte’s Brain Bank Coordinator at 310-268-3536.
You can do something important

You can do something important to help by arranging for a priceless gift that is uniquely yours to give when you die. Donating your brain could help unlock the mysteries of complex disorders and keep families healthier for generations to come. The Brain Donor Project is a tax-exempt 501(c)(3) nonprofit organization that aims to increase the supply of human post-mortem brains donated for scientific research. Our goal is to simplify the process of brain donation and increase public awareness of the need for this most precious resource.

Researchers have come incredibly far in the last decade or so, identifying the genetic basis and other root causes of many neurological disorders. Now there’s an urgent need for high quality, well-characterized tissue from both diseased and non-affected (control) brains to support research and help reach the next level of scientific breakthroughs.

Our work supports the [NeuroBioBank](#) of the National Institutes of Health (NIH), which was formed in 2013 to collect, process, store and distribute human brain tissue to biomedical researchers across the country. The demand for tissues from donors with certain disorders or from specific brain regions can quickly deplete these valuable resources, putting life-saving research in jeopardy.
How does this work?

1) Complete online form (http://braindonorproject.org) and submit
2) Brain bank will provide further instructions
3) Complete forms and return
4) Talk to your family and friends
Brain Donation Program

What happens to the brain during autopsy? The brain is sectioned into the parts: brainstem, hypothalamus, and the rest of the brain. The left side of the brain is quickly frozen and the right side of the brain is placed in fixative (formalin). Cerebrospinal fluid is also collected from the brain. All samples are then shipped overnight to our laboratories at Stanford University for storage until use.

What do we do with the donated brain tissue? Several different type of studies can be done with the tissue. Gene expression can be examined and compared with gene expression in control brains. The difference in the expression of different proteins, peptides, or sugars can also be examined. Tissue damage and immune markers can also be quantified in the tissue. We can, for example, look for specific immune markers that may target hypocretin neurons for destruction by your own immune system.

What have we published using previously donated brain tissue from narcolepsy subjects? Here are three of our publications that involved tissue donated by narcoleptics:

Peyron et al. (2000)
Honda et al. (2004)
Espana et al. (2004)
UCLA-National Brain Bank for Narcolepsy Research

The Human Brain and Spinal Fluid Resource Center (HBSFRC) is a brain bank for neuroscientists. The Center collects, stores, and distributes the highest quality of pre- and post-mortem tissues, including brain, spinal cord, cerebrospinal fluid (CSF), serum, blood cells and urine, to be used by scientific investigators of neurological and psychiatric diseases.

The most vital part of the HBSFRC is the Brain Donor Program. Volunteers and patients who elect to become donors support scientists in their pursuit of improving human health by granting them the opportunity to conduct life-saving research.

The Human Brain and Spinal Fluid Resource Center is supported by The National Institute of Health (NIH). Please visit the NIH NeuroBioBank for more information.

Donate to Science

Thinking about donating to science? Find out about our confidential donation process and how you can support neurological research in finding treatments and cures for the future.

Brain Bank for Researchers

HBSFRC supplies high-quality biospecimens to qualified researchers and scientists. Looking for samples? Browse our inventory and read about our strict protocols.