

HUMAN GENE TRANSFER

University of Texas Southwestern Medical Center at Dallas

INTRODUCTION

“Human gene transfer is the process of transferring genetic material (DNA or RNA) into a person. At present, human gene transfer is experimental and is being studied to see whether it could treat certain health problems by compensating for defective genes, producing a potentially therapeutic substance, or triggering the immune system to fight disease.

Human gene transfer may help improve genetic disorders, particularly those conditions that result from inborn errors in a single gene (for example, sickle cell anemia, hemophilia, and cystic fibrosis). It may also hold promise for diseases with more complex origins, like cancer and heart disease. Gene transfer is also being studied as a possible treatment for certain infectious diseases, such as AIDS. This type of experimentation is sometimes called ‘gene therapy’ research.”

-- National Institutes of Health

FEDERALLY-MANDATED REVIEWS

Human Gene Transfer Research is defined by federal regulations as, "Any deliberate transfer of recombinant DNA, or DNA or RNA derived from recombinant DNA (technology), into human research participants."

The National Institutes of Health Recombinant DNA Guidelines <http://www4.od.nih.gov/oba/rac/latestnewsRac.htm> require review (or exemption from review) of human gene transfer studies by:

- a) the NIH's Office of Biotechnology Activities (OBA) Recombinant DNA Advisory Committee (RAC)*,
- b) the Institutional Biosafety Committee (at UT Southwestern this is called the Biological and Chemical Safety Advisory Committee, a.k.a. the BCSAC), and
- c) the Institutional Review Board (IRB). Please note, Institutional Biosafety Committee approval or exemption is required **before** submission to the IRB for human subjects protection review and approval.

* Visit http://www4.od.nih.gov/oba/RAC/RAC_FAQs.htm and click on "Are there any kinds of human gene transfer trials that are specifically exempted from the RAC review process?" for a description of studies that are exempt from RAC review.

BCSAC SUBMISSION REQUIREMENTS

The UT Southwestern BCSAC committee meets quarterly to review protocols related to biological and chemical safety and to discuss policy. Contact Patrick Conley at 5-8341 for the next scheduled meeting date.

Human gene transfer protocols are reviewed for vector safety, compliance with NIH Guidelines, and biological risks. Review is delegated to members of the committee as appropriate.

To obtain a BCSAC review, investigators should send copies of the following information to Patrick Conley, EH&S Interim Biosafety Officer for Biological and Chemical Safety, mail code 9053. Electronic or hard copy is acceptable.

1. Investigator's Brochure, Master Protocol, and (draft) Informed Consent Document
Note: Investigators should review the [NIH Guidance on Informed Consent For Gene Transfer Research](#) for useful information about preparing the informed consent document and performing the informed consent process.

2. NIH Guidelines Appendix M-II: Description of Proposal
http://www4.od.nih.gov/oba/rac/guidelines_02/APPENDIX_M.htm#_Toc7255851

3. All RAC correspondence and recommendations.
 - If the study is supported by an outside sponsor, the sponsor should have completed the required submission to the NIH Office of Biotechnology Activities (OBA) for Recombinant DNA Advisory Committee (RAC) consideration. UT Southwestern investigators must contact the sponsor to request a copy of a RAC exemption letter, or-- if the RAC reviewed the protocol--a copy of the RAC's recommendations for the conduct of the trial.
 - If the study is investigator initiated, visit the OBA website (above) for instructions on submission for RAC review.

IRB SUBMISSION REQUIREMENTS

Following the OBA RAC review and approval by the UT Southwestern BCSAC, investigators should provide to the IRB a completed NR-1, the Master Protocol and Investigator's Brochure, all RAC correspondence and recommendations, a copy of the BCSAC approval letter, and an Informed Consent Document (ICD). Be sure that the ICD addresses additional consent elements unique to human gene transfer research, such as: reproductive considerations, long term follow-up (FDA requires 15 years or until death), autopsy to study pathology of disorder/illness, and risk of media interest in the study.

ADVERSE EVENT REPORTING REQUIREMENTS

Additional adverse event reporting requirements exist for Human Gene Transfer studies. For more information about the AE reporting requirements for Human Gene Transfer studies, [click here](#).