

NIAAA: Research on Alcohol-Induced Liver Injury

**Digestive Disease Interagency Coordinating
Committee: Liver Disease Subcommittee**

November 25, 2003

Sam Zakhari, Ph.D.



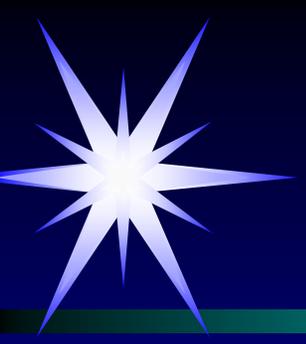
Summary of NIAAA Liver Grants FY 2002

Mechanism	Number	\$ (in Thousands)
K (Careers)	8	833
F (Fellowships)	2	52
T (Training)	2	452
P (Centers)	2	3,592
R01	61	19,049
R03	6	329
R21	12	1,581
R37	6	2,028
R44	1	345
Z (Intramural)	7	1,946
Total	107	29,688 (~8%)



Scientific Areas: 1. Cell and molecular biology of the liver

- a. Hepatocyte biology
- b. Cholangiocyte biology
- c. Cell injury, necrosis, apoptosis**
- d. Regeneration**
- e. Developmental biology and stem cells**
- f. Bile, bile acids, bilirubin, and cholestasis
- g. Fibrosis**
- h. Immunology and cytokines**
- i. Cell-signaling, membrane and vesicular transport and trafficking**
- j. Nutrition: lipid, carbohydrate and protein metabolism**
- k. Gene regulation**
- l. Proteomics



Scientific Areas: 2. Viral hepatitis and infectious diseases

- a. Hepatitis A and E
- b. Hepatitis B and D**
- c. Hepatitis C**
- d. Other infectious diseases of the liver
- e. HIV and liver disease**



Scientific Areas: 3. Fatty liver disease

- a. Alcohol metabolism
- b. Alcohol and mechanisms of cell injury
- c. Clinical Alcoholic liver disease
- d. Mechanisms of steatosis and cell injury not due to alcohol
- e. Nonalcoholic fatty liver disease



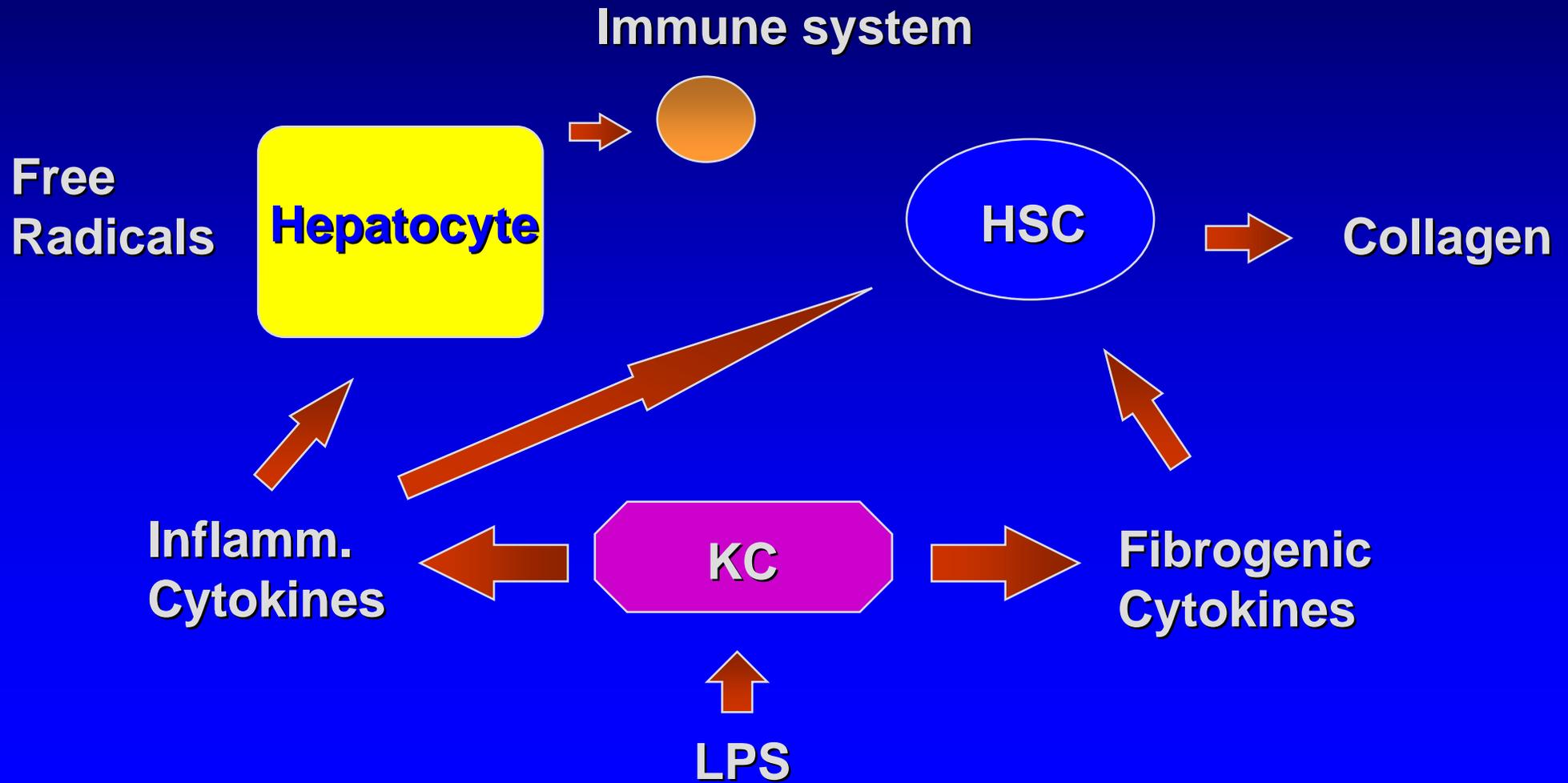
Alcohol Metabolism

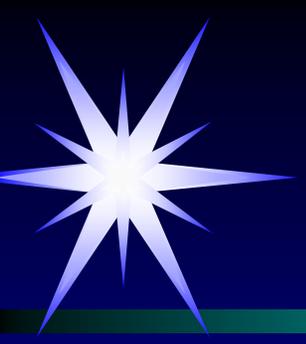


Mol. Biol.
Gene Exp.
Hormones
Acetald. adducts

Kinetics
Structure of enzymes
Other substrates
Ethnic/Genetic Diff.

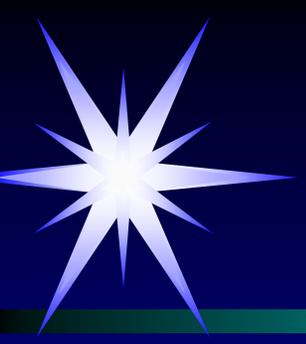
Mechanisms of Cell Injury





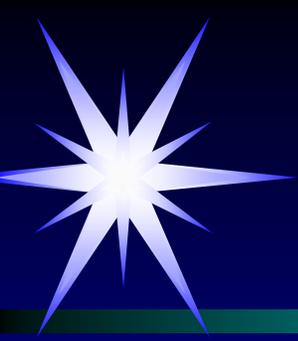
Scientific Areas: 4. Drug and toxicant-induced liver disease

- a. Drug and toxicant metabolism and the liver
- b. Mechanisms of drug- and toxicant induced liver disease
- c. Clinical features



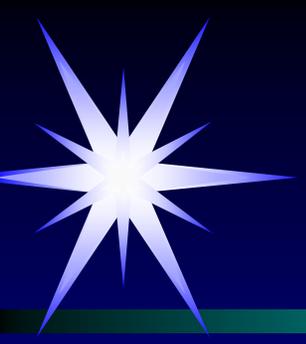
Scientific Areas: 7. Genetic liver diseases

- a. Wilson's Disease and copper metabolism
- b. Hemochromatosis and iron metabolism**
- c. Porphyria and porphyrin metabolism
- d. Cystic fibrosis
- e. Polycystic liver disease
- f. Other genetic diseases affecting the liver**
- g. Gene therapy



Scientific Areas: 8. Liver transplantation

- a. Outcomes and Complications**
- b. Immunology of transplantation and tolerance
- c. Cryopreservation of organs
- d. Xenotransplantation
- e. Hepatocyte transplantation
- f. Living Donor Liver Transplantation
- g. Acute liver failure



Scientific Areas: 10. Liver Cancer

- a. Hepatocellular carcinoma (HCC), pathogenesis**
- b. HCC, epidemiology, screening, detection**
- c. HCC, management and therapy**
- d. Cholangiocarcinoma**
- e. Angiosarcoma**
- f. Hepatoblastoma**
- g. Others**