Central Alabama High-Field NMR Facility
Structural Biology Shared Facility (Cancer Center)
Center for Structural Biology

Dept of Chemistry, 901- 14th St. South, Birmingham, AL 35294

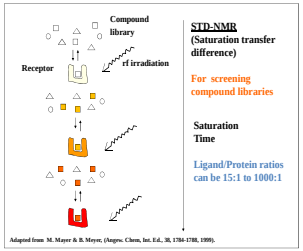
NMR Facility Director: Prof. N. Rama Krishna (Ext. 4-5695),
Dept of Biochem & Molec Genetics

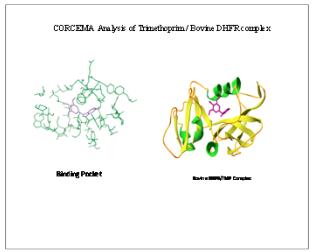
NMR Research Capabilities

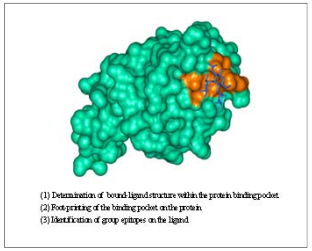
(Extremely Diverse Range of Applications in Structural Biology and Drug Discovery)

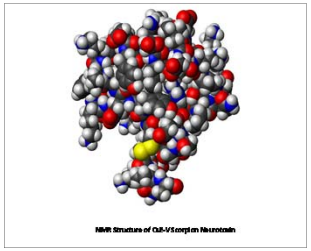
The facility staff will provide advice and consultation on a wide range of NMR applications

- **Quality Control** in Synthetic Chemistry and Medicinal Chemistry Drug Discovery/Design Projects by 1D/2D-NMR (1H, 13C, 31P etc).
- **Three-dimensional structures** of **Proteins** and their **complexes** (protein-protein, protein-nucleic acid).
- **Three-dimensional structures** of **Protein-ligand** complexes (tight binding to very weak binding).
- **STD-NMR Screening** (a binding assay) of single Compound or Compound Libraries.
- **Binding Epitopes** of the low molecular weight compounds.
- **Fragment-based discovery** & **design** (lead optimization) of new drugs by: (a) **SAR-by-NMR** and (b) **ILOE**
- **Membrane-bound Proteins/peptides**.
- **NMR on cells** (*in vitro*) **and cell extracts, NMR-Metabolomics.**









State-of-the-Art Bruker NMR Instrumentation:

(1) 850 MHz NMR Spectrometer with a TCI-CryoProbe

(2) 700 MHz NMR Spectrometer with a TCI CryoProbe

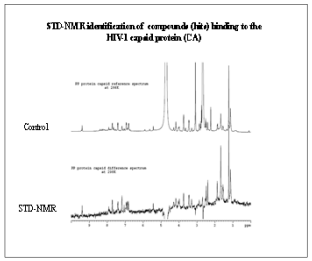
(3) 600 MHz NMR Spectrometer with a TCI-CryoProbe

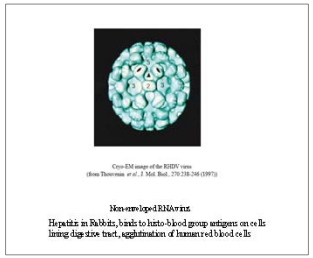
(4) 500 MHz NMR Spectrometer with TXI & TBI Probes

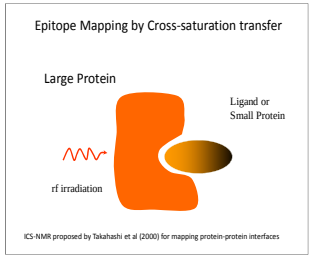
Facility Staff:

N. Rama Krishna, Ph.D., Director, nrk@uab.edu, 4-5695
Ronald shin, Ph.D., Manager, shinr@uab.edu, 4-5696
Mike Jablosky, Ph.D., Res Associate, jabo@uab.edu

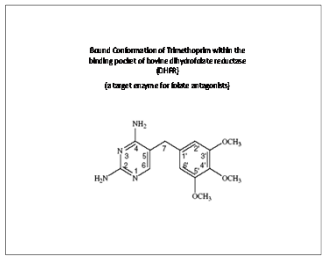
Usage Fees: Please contact Dr. Krishna for usage fees

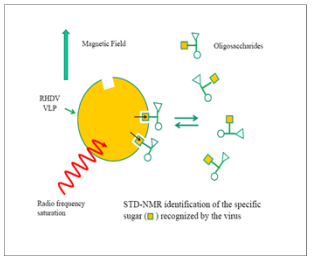


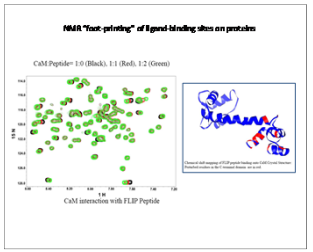


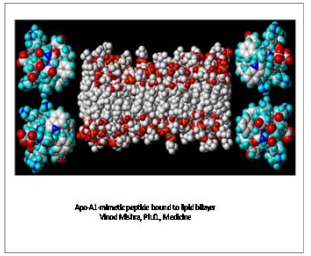


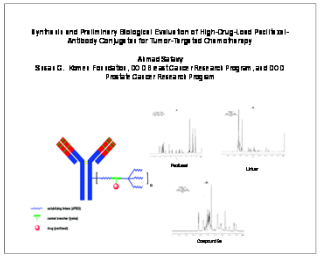
NMR Structure of a monomeric mutant of the HIV-1 capsid protein (26 kDa)

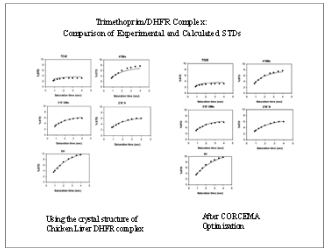


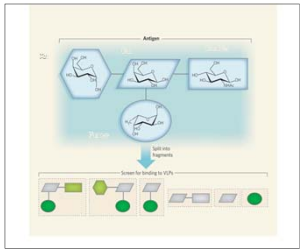


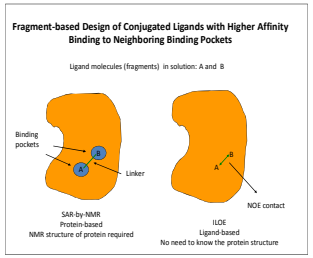


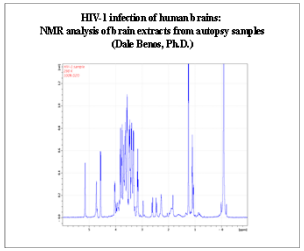












NMR on intact cells and cell extracts