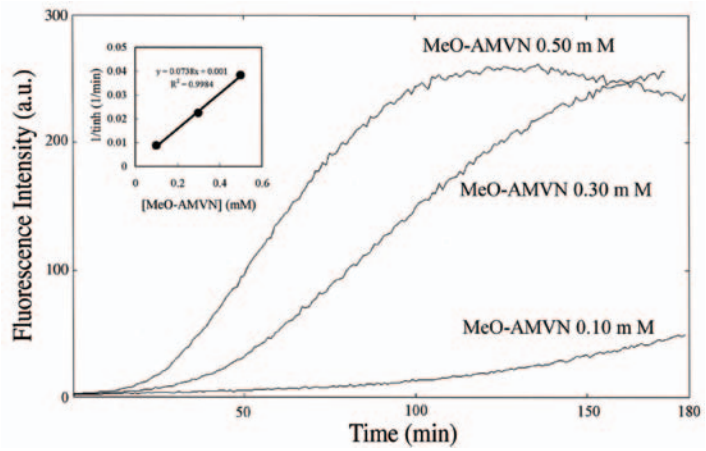
Detection of Lipid Peroxidation in Vivo and Prevention by Antioxidants

- Detection of oxidative stress markers -

Yasukazu YOSHIDA
Human Stress Signal Research Center
yoshida-ya@aist.go.jp
AIST Today Vol. 4, No.1 (2004) 11

The free radical-mediated oxidation of biological molecules and its inhibition by antioxidant have been the subjects of extensive studies in relation to oxidative damage and disorders in vivo. Various methods have been applied to measure oxidative events and also antioxidant action in vitro and in vivo. One of the popular approaches involves the use of fluorogenic probes. We have elucidated the oxidation mechanism of biological samples especially lipoproteins using these probes and also studied to find out the specific oxidative marker. Our final goal is to realize high QOL for human kinds by determining the stress marker and enhancing defense capacity toward disorders.



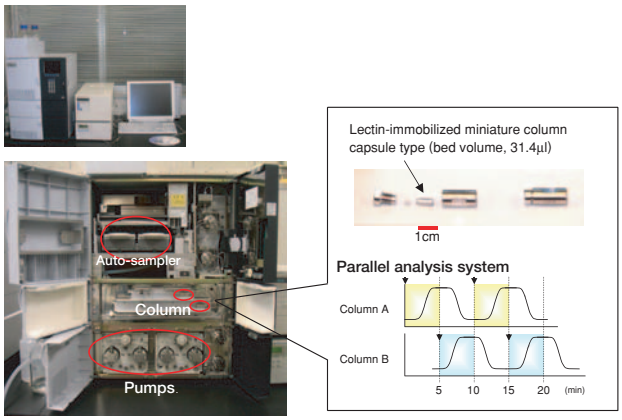
The increase in BODIPY fluorescence in the oxidation of human plasma induced by azo compound

Glycan Profiling by Frontal Affinity Chromatography

- Development of an automated machine in the context of structural glycomics -

Jun HIRABAYASHI
Research Center for Glycoscience
e-mail: jun-hirabayashi @aist.go.jp
AIST Today Vol. 4, No.1 (2004) 12

To understand glycan functions, it is essential to get basic information about complex glycan structures. For this purpose, we are developing a "glycan profiler" under the concept that lectins are "decoder proteins for glycomics". FAC (frontal affinity chromatography) is the first choice for precise determination of affinity constants between lectins and glycans in a highly sensitive and high-throughput manner.



Outline of the automated analyzer FAC-1, a proto type machine for frontal affinity chromatography (above) and the inside view of the machine