Cancer Prevention Think Tank
December 8, 2006

EXECUTIVE SUMMARY

The objective of the Cancer Prevention Think Tank, held on December 8, 2006, at NCI-Frederick and organized by Dr. Nancy Colburn, Ph.D., chief of the Laboratory of Cancer Prevention (LCP), was to identify and prioritize the most promising molecular targets and interventions for high impact cancer prevention research. Think Tank recommendations will be used to:

1. establish LCP action items for collaborations within CCR and with other NCI divisions and extramural investigators;
2. communicate priorities to the CCR Director;
3. provide input to the CCR Strategic Plan.

The forum assembled scientists and clinicians from CCR, DCP, and Academic Centers outside of NIH. CCR/NCI Programs included the Molecular Targets Development Program (MTDP), the Mouse Models of Mammary Cancer Collective (MMMCC), the Animal Models Initiative (AMI), and the Inflammation and Cancer Initiative (ICI).

Two roundtable panels were held from which recommendations for high priority initiatives to be pursued at the CCR/NCI were generated. The first panel addressed molecular target discovery and the use of mouse models, while the other focused on nutritional and pharmacological interventions to prevent cancer.

Overview of Recommendations

Molecular Targets Discovery

1. Use both chemical carcinogenesis and genetically engineered mouse models, particularly models of tissue specific and single allele expression.
2. Encourage basic research aimed at understanding the role of inflammation in inducing cancer.
3. Support initiatives to study the relationship between normal and cancer stem cells.
4. Exploit validated molecular targets, including COX-2, AP-1, NFκB, EGFR, STAT-3, and ER.

Nutritional and Pharmacological Interventions

1. Develop predictive biomarker panels for cancer risk and response to treatment for individualized prevention.
2. Conduct prevention trials in which participant groups are stratified according to risk-benefit ratios so that individualized approaches can be developed.
3. Support multidisciplinary teams for detecting micrometastases through advanced biomedical technologies, such as non-invasive imaging.
4. Increase collaborations with the Division of Cancer Prevention, other NCI divisions, and CCR clinicians and basic scientists.