The University of Maryland Institute for Bioscience and Biotechnology Research (IBBR) is pleased to announce the 2012 awardees of the Complex Therapeutics Seed Grant. This marks the first year of the seed grant program to fund new projects that address research questions pertaining to biologic drugs and vaccines. This program was initiated by the University of Maryland Institute of Bioscience and Biotechnology Research (IBBR) to foster creative teams of investigators working across disciplinary boundaries and campuses: UMD, UMB and NIST. The two seed grants that were selected for funding represent new research foci capable of resulting in preliminary data towards submitting joint research proposals relevant to future improvements of patient outcomes and reducing health care costs of biologic drugs.

Both funded seed grants represent multidisciplinary collaborations between researchers at the partnering institutions. “We are confident that this seed grant program will both enhance interactions between IBBR researchers and UM, UMB and NIST” remarked Dr. Don Nuss, Director of IBBR. “There is also no doubt that the two projects selected for funding are of tremendous importance to advancing complex therapeutics and hold great promise for future funding from external agencies”. One research group, including Drs. Shunyuan Xiao (IBBR), Roy Mariuzza (IBBR), Seong-Ho Lee (UMD), and Feng Jiang (UMB), will work toward the development of unique anti-cancer therapeutic proteins. These researchers plan to leverage their collective expertise to design and test synthetic proteins for targeted sequestration of a specific family of oncogenic proteins, called 14-3-3 proteins, in cancer cells. These proteins make up a multi-member family of regulatory/chaperone proteins that are highly conserved across eukaryotic kingdoms. 14-3-3s are thought to play important roles in a wide range of vital cellular processes, including cell cycle control, proliferation, and programmed cell death. As growing evidence suggests that there is a strong link between 14-3-3 dysregulation and many types of cancer, 14-3-3 proteins are considered to be promising targets for anti-cancer treatment.

The second funded seed grant will support the research collaboration of Drs. Danna Zimmer (IBBR), Mary Ann Ottinger (UMD) and Rosemary Schuch (UMB). The group plans to examine the effectiveness of two antibody-based therapeutics on the progression of Alzheimer’s disease (AD). The research will focus on a specific extracellular binding protein, S100A1, which is a validated novel drug target for AD. The antibody-based therapeutics will be evaluated in a mouse model to determine pharmacokinetic endpoints, (e.g. CNS penetration, distribution, immunogenicity), changes in cognitive, and pharmacodynamic endpoints (e.g. target engagement and disease modification). Since it is known that S100A1 inhibition beneficially targets multiple pathways that contribute to AD pathobiology, even a modest reduction in AD progression would represent a significant improvement in this debilitating disease.

IBBR will fund fifty percent of each project and the remaining funds will come from the home institution(s) of the
collaborators. The award recipients are expected to produce sufficient preliminary results so that within twelve months after expiration of the award, a proposal for external funding is submitted. The overall expectations are that within two years after the end of the funding period, publication(s) or manuscript(s) will result. The awardees will also participate in future progress sessions or other events that bridge campuses and bring researchers together.