The Drug Development Institute (DDI) is a biotech-like institute embedded within The Ohio State University Comprehensive Cancer Center – James Cancer Hospital and Solove Research Institute that employs a combination of targeted investments, strategic management and cutting-edge resources to drive projects from discovery through early-stage drug development.

The DDI Advantage

- A pipeline of innovative, early-stage therapeutics in development
- Independently validated technologies
- Rigorous project milestone management by industry scientists
- A network of industry experts to vet projects
- Focus on external partnership and out-licensing

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Pipeline

The DDI works with world-renowned investigators who perform cutting-edge research in multidisciplinary teams. Highlights of current projects in our pipeline:

**Activated B Cells as a Therapeutic Cancer Vaccine Platform**
Investigators: Thomas L. Cherpes, MD, DVM; Rodolfo Vicetti Miguel, MD; and Nik Quispe Calla, MD
A novel B cell-based cancer vaccine, with the potential to be personalized to an individual’s own tumor signature, is being developed for use in the treatment of a wide variety of cancer types.

**Selective Activation of Immune Cells via the Notch Pathway**
Investigators: Mikhail Dikov, PhD; Thomas Magliery, PhD; and David Carbone, MD, PhD
This team of researchers has developed a new class of molecules that modulate a signaling pathway in immune cells to reprogram the immune system to recognize and fight evasive cancer tumor cells.

**Selective RAL A GTPase Inhibitors as a Cancer Treatment**
Investigators: Steven Sizemore, PhD, and Steffen Lindert, PhD
The Ral A protein has been shown to be a critical node in the signaling pathways allowing growth of several types of cancer. This team is developing first-in-class, selective inhibitors of Ral A.

**Selective Estrogen Receptor Modulator (ER-β Agonist) as a New Approach to Targeting Cancer**
Investigator: Werner Tjarks, Dr.rer.nat.
A novel series of selective estrogen receptor beta agonists is in development for the treatment of cancer as well as the precancerous condition, nonalcoholic steatohepatitis (NASH).

**Split Delivery and Functional Reconstitution of Immunotoxins via Dual Tumor-Targeted Pathways**
Investigator: Dmitri Kudryashov, MD, PhD
The team is developing a unique strategy for increasing the safety profile of highly potent immunotoxins by ensuring that active toxins are produced only within cancer cells.

**Mps1 Kinase Inhibitor as a Treatment for Solid Tumors**
Investigators: Harold Fisk, PhD; Robert Brueggemeier, PhD; Tom Li, PhD; and Michael Darby, PhD
Mps1 is a protein that regulates cell division, and its overexpression is associated with poor outcomes in triple-negative breast cancer and other solid tumors. This team is developing selective inhibitors of Mps1.

**PP2A Activator for Treatment of AML and Other Hematologic Malignancies**
Investigators: Raj Muthusamy, DVM, PhD; William Kisseberth, DVM, PhD; Mitch Phelps, PhD; John C. Byrd, MD
Protein phosphatase 2A (PP2A) is an important tumor suppressor that is frequently inactivated in acute myeloid leukemia (AML) and other hematologic malignancies. This team has developed a selective activator of PP2A to address the significant unmet need in AML.

**Aryl Hydrocarbon Receptor as a Target for Multiple Myeloma**
Investigator: Don Benson, MD, PhD
The aryl hydrocarbon receptor (AHR) has been implicated as a sensor of environmental chemicals as well as a critical regulator of B-cell development. This team is evaluating small molecule inhibitors of AHR to address the significant unmet need in multiple myeloma.

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