Comparative Oncology:

To Provide Opportunities To Include Naturally Occurring Cancer Models In The Study Of Cancer Biology And Therapy

Problem:

Only 11% of anti-cancer drugs which showed efficacy in mice approved for human use

- Phase II attrition rate high-kill early!
- POM early on for targeting therapies
- PK/PD relationship in FIH
- Early Efficacy

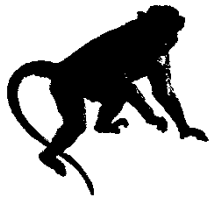
Opportunity:

- Cancer in Companion Animals
- 72 Million Companion Dogs in the US
- 1-6 million pet dogs diagnosed with cancer each year
- Pet owners seek advanced care for their pets

Companion Animal Cancer Models

- Large outbred Animals
- Strong Genetic similarities to Humans
- Naturally Occurring cancers
- Immune competent and syngeneic
- Relevant Tumor Histology/Genetics
- Relevant Response Chemotherapy
- No “Gold Standards”
- Compressed progression times
- Tumor Heterogeneity
- Metastasis Biology
- Recurrence/Resistance

Pharma Approach to Incorporating Comparative Medicine into Drug Development



Non-Human Primate
Beagle Dog

Small Animal
Preclinical

Early Phase Human
Clinical Trials

Phase II Human
Clinical Trials

Phase III Human
Clinical Trials

New Cancer Drug

Tumor-Bearing
Dog Studies

Activity
Toxicity
Pharmacokinetics
Pharmacodynamics

Tumor-Bearing
Dog Studies

Dose
Regimen
Schedule
Biomarkers
Responding Histologies
Combination therapies

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