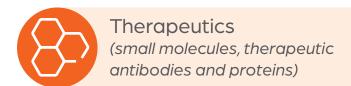


Zoetis seeks innovation that can change the landscape of entire research programs or platforms arising from collaborations across all healthcare or life science sectors. **Digital healthcare, machine learning and diagnostic techniques** applied to pharmaceutical R&D, and **genomics, transcriptomics** or **proteomics** enabling rational drug and vaccine design are areas of emphasis.



# • Chronic pain and inflammation

- » disease-modification of osteoarthritis
- » long-acting pain management
- » no interest in corticosteroids, opiates, NSAIDs, or cannabinoids

#### Immunomodulation

- » immunoregulatory pathways
- » pattern recognition receptor agonists / antagonists
- » immune check point inhibitors
- » host defense peptides
- Chronic renal disease disease-modification

## Antiparasitics

- » resistant heartworm prevention
- » novel mechanisms for flea and tick prevention
- » Integrated solutions for parasite management

## Antibiotic alternatives

- » antimicrobial peptides
- » direct immunological approaches

#### Livestock health

- » mammary gland health and improved milk production
- » reproduction efficiency
- » transition cow metabolic health
- » gut health anti-inflammatories
- » Feed efficiency and greenhouse gas reduction
- » non-antibiotic liver abscess prevention in beef cattle



# 2022 Research Alliance Interests (Continued)



## **Vaccines**

- Novel adjuvants
  - » Mucosal route of administration requiring novel mucosal adjuvants
- Mucosal immunity adjuvants or procedures
  - » TLR agonists
  - » synthetic poly i:c
  - » oral vaccine / adjuvant technologies
  - » mass vaccine administration
- Vectors for cattle and companion animal vaccines
  - » mRNA vaccines and therapeutic vaccines
  - » Antiparasite vaccines
  - » Alternative potency assay technologies



# Diagnostic Technologies

- Point of care
  - » urinalysis
  - » hematology
- At-home diagnostics
- Multiplexing and microfluidics integration
- Simultaneous multiple sample processing



# Bioinformatics

- Integrative software
  - » clinical data, and multi-omics data
  - » databases across tissue and disease types
- Digital integrated solutions for livestock
- Artificial intelligence and machine learning applied to animal health



# **Technologies**

- Commercializable antibody, protein, and/or peptide expression systems (>5g/L)
- Novel biomarkers and phenotypic screens relevant to therapeutic and vaccine areas (pain, renal, etc.)
  - » transgenic models for target ID/validation
  - » ex vivo tissue / co-culture models of disease
- Metagenomic identification or progression of clinically relevant diseases
- Formulation or Delivery Technologies
  - » enhanced stability/palatants/ taste masking
  - » vaccine implants, microparticle-based, aerosols, topical spray, and oral delivery
  - » vaccine delivery/injection devices for livestock
  - » 3-12 month long-acting injectables
  - » transdermal delivery for cats



## **Partner with Zoetis:**

To explore a research alliance with Zoetis, please visit <a href="https://www.zoetis.com/innovation/strategic-partnerships">www.zoetis.com/innovation/strategic-partnerships</a>

