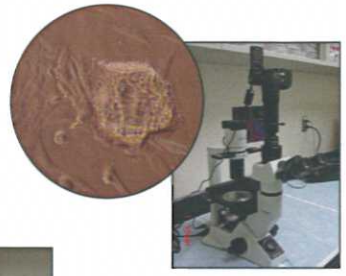
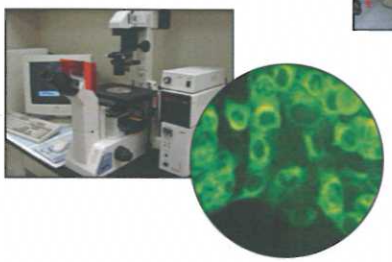
## CELL-MOLECULAR BIOLOGY TECHNIQUES

- Tissue culture
- Cell viability proliferation assays
- Apoptosis assays
- Immunohistochemistry
- Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) and Quantitative Real Time PCR
- Protein arrays
- Western blotting
- Enzyme-Linked Immunosorbent Assays (ELISAs) and Enzyme Immunoassays (EIAs)

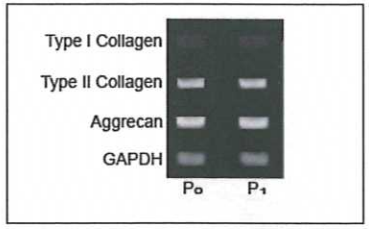


*Phase Contrast Microscopy*

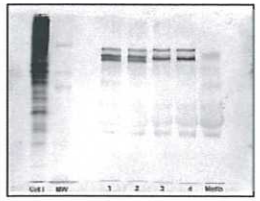


*Immuno-histochemistry*

## RT-PCR/Real Time PCR:



## WESTERN BLOTTING



## ELISAs and EIAs

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# RESEARCH AND DEVELOPMENT

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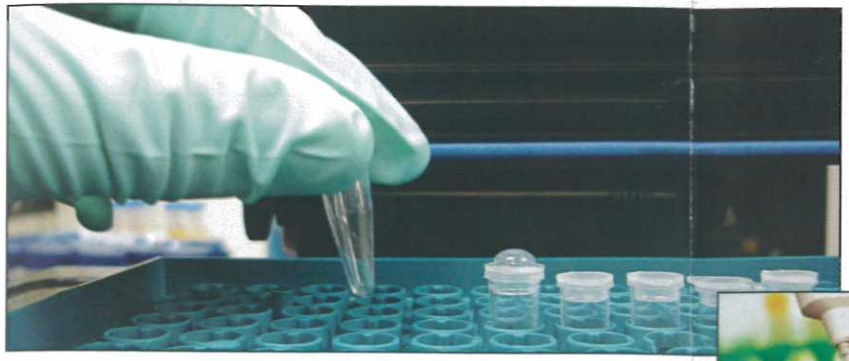
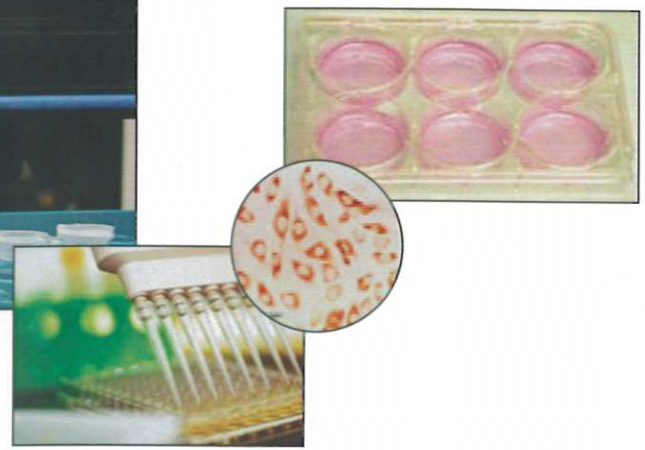
# RESEARCH AND DEVELOPMENT





## a team approach

### MISSION

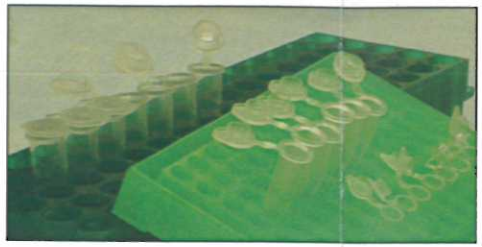
*To identify, optimize, standardize and develop novel, patented and science-based products for human and veterinary applications.*

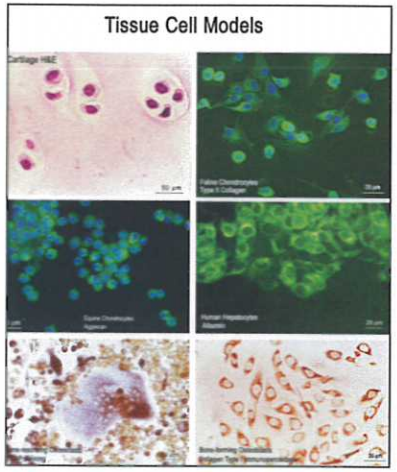
### EXPERTISE

*Cell Biology*
*Immunology*
*Molecular Biology*
*Protein Chemistry*
*Biomedical Engineering*
*Materials Science*
*Chemical Engineering*

### PROGRAMS

*Joint Health*
*Liver Health*
*Bone Health*
*Immune Health*
*Brain Health*
*Gastrointestinal Health*
*Urinary Tract Health*

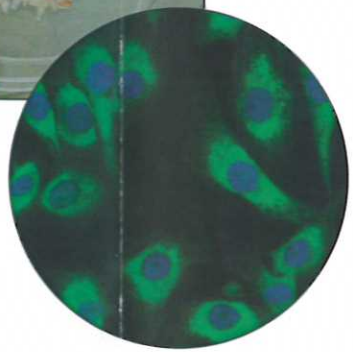





### WE USE:

**CELL BASED ASSAYS**
To determine and evaluate

- Phenotypic gene expression
- Response to stimuli at the message and protein level
- Mechanism of action



**CELL MODELS:**

**Tissue surrogates of cartilage, bone, tendon ligament, immune system, liver**

- Chondrocytes, fibroblasts, monocytes-macrophages,lymphocytes, hepatocytes, splenocytes, bone marrow cells, osteoblasts, tendon, and ligament cells
- Tumor cell lines

### WE TEST FOR:

- Biomarkers of tissue health
  *Phenotype markers*
- Biomarkers of inflammation
  *mediators (cytokines, chemokines, prostaglandins, leukotrienes, nitric oxide)*
- Biomarkers of oxidative stress
  SOD, glutathione peroxidase, catalase
- Biomarkers of tissue degradation
  *degradative enzymes: (metalloproteinases: aggrecanase, collagenase)*
- Biomarkers of enzyme inhibitors
  *TIMP*
- Viability, growth, and differentiation
- Immune responses

### RESEARCH INTERNSHIP OPPORTUNITIES

- **Veterinary students**
- **Medical students**
- **Post-doctorates**
- **University faculty**

Please contact us for details and availability:
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