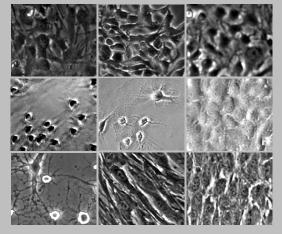
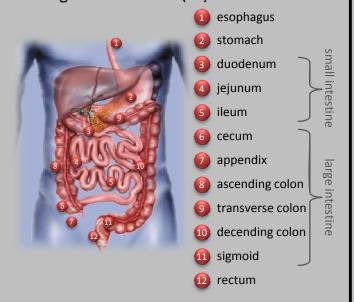


# AlfaGene BioScience, Inc.



AlfaGene is an innovative biotechnology company that uses its own novel proprietary cutting edge adult stem cell technology to create the only stem cell and non-transformed primary epithelial cell derived model of each segment of the entire gastrointestinal (GI) tract.



#### **Company Mission**

- Utilize AlfaGene's proprietary technology and growth medium allowing isolation, long term culturing, and differentiation of adult intestinal stem cells, as well as, differentiation to various non-transformed primary epithelial cell lineages
- Provide unique cellular based assay platform composed of paired stem cells and epithelial cell lines from both normal and diseased intestinal tissues obtained from the same individual
- Provide renewable sustainable non-transformed cellular supply for various studies/efforts: disease specific biomarker discovery, drug discovery and testing, site specific uptake, bio-transport, bio-availability, metabolism, toxicity testing, development of regenerative/personalized therapies with patient's own GI stem cells...
- Provide a system which is significantly more cost effective and time saving with greater accuracy, confidence, physiological similarity/relevance and fewer false positives during preclinical stage of drug discovery and development



### Services, Alliances, & Partnerships

### I. R&D Technologies and Services:

- Isolation, stable establishment in long term culture, characterization, and bulk production of <u>adult human gastrointestinal stem cell</u> (AHGI-SC) lines from AlfaGene's resource bank, from tissue samples provided by customer, or paired from the both the normal/unaffected and diseased (including adenocarcinomas, UC, CD, IBD IBS) tissue of the same individual
- Bulk production of human nontransformed primary epithelial cell lines representative of every epithelial cell type (columnar enterocyte, enteroendocrine, Goblet, and Paneth) which comprises the GI epithelial mileu lining the luminal wall of the GI tract
- Biomarker discovery, target molecule identification, and drug testing

# II. Cellomics, Genomics, and Proteomic Services:

- Provide adult human gastrointestinal stem cell lines, derived primary non-transformed epithelial cell lines, derivatives (DNA, RNA, and Protein - fractioned into extracellular/ secreted, membrane associated, cytosolic, and nuclear), and culturing medias
- Provide differential expression analysis of both RNA (via RT-PCR and gene array) and protein (via Western, ELISA, 2D-DIGE, iTRAQ, and cICAT)
- RNA based analysis: RT-PCR, cDNA microarrays



AlfaGene BioScience, Inc.
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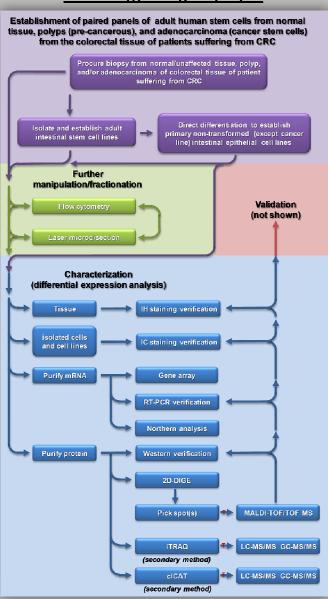
- Protein based analysis: Western, ELISA, 2D-DIGE, FACS arrays
- Tissue culture
- Flow cytometry analysis
- Cloning, expression construct construction, and recombinant protein production
- ELISAs perform and construct
- Immunohistochemical analysis
- Immunocytochemical analysis
- microscopy light, flourescent, confocal, electron

### III. Analytical Assay Services (both custom design and commercially available):

- protein carbonyls assay
- 8-Isoprostane assay
- TLR, stem cell, epithelial cell type, proinflammatory cytokine and chemokine assays
- Bioplex assays (cytokines)
- biotoxicity assays
- cell proliferation/growth assays
- cell migration assays
- permeability/drug uptake/transport/ ADMET assays
- ligand binding assays
- mode of action assays (inter and intracellular signaling)
- cell surface protein expression and/or phosphorylation assays
- cell:cell (homogeneous and mixed) cell culture interaction assays
- bioactivity (potency) and efficacy assays
- neutralizing antibody assays
- transepithelial electrical resistance (TEER) assays



## An example of AlfaGene's proprietary technology being employed



AlfaGene is your outsource provider capable of performing both small scale individual and large scale bulk assays, as well as, commercially available assays or desiging and running custom assays



AlfaGene BioScience, Inc. YOUR TRUSTED RESEARCH PARTNER



# YOUR TRUSTED RESEARCH PARTNER

### Laboratory

155 Pierce Street, Suite A Somerset, NJ 08873 Phone: (732)469-5631 FAX: (732)560-0266

**Corporate Office** 20 Corrielle Street Fords, NJ 08863 Phone: (732)738-7340

FAX: (732)738-7343

Email: info@alfagenebioscience.com Web: www.alfagenebioscience.com

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