OncoArrestin LLC

Creating Durable Therapies for Metatstatic Cancer

Antibody Substrate Oligonucleotide Conjugates (ASOCs):
Tumor Targeted XSD™-Oligonucleotide Delivery

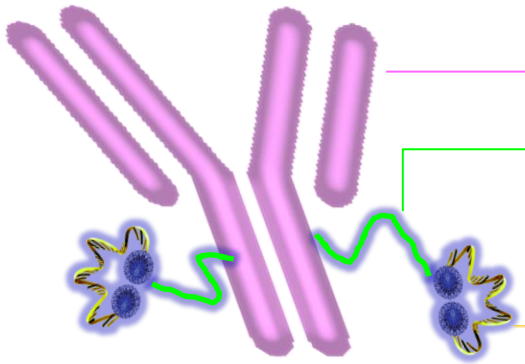
OncoArrestin LLC

OncoArrestin, LLC is a Delaware-registered company located in Gaithersburg, MD. It was set up as a therapeutics company to develop the delivery technologies originally invented and patented by OncoImmunin, Inc. The latter company, founded in 1994 in Maryland, first developed a cell-permeable fluorogenic protease substrate technology for studying apoptosis, cell-mediated cytotoxicity including antibody-dependent cellular cytotoxicity (ADCC) as well as additional applications.

By modifying the design properties that made peptides of 18-20 amino acids cell permeable, delivery of oligonucleotides into cells and tissues was achieved. The result was the Xyton Stealth Delivery platform, a now patented method for the *in vivo* delivery of oligonucleotides. Combining knowledge and know-how from these inventions, we started OncoArrestin and are currently developing Antibody Substrate Oligonucleotide Conjugates (ASOCs) to create the next generation of drugs for immmunotherapy.

OncoArrestin's Technology

More specifically, ASOCs are monoclonal antibodies covalently linked to both protease substrates and oligonucleotides. A linkage of an ASOC can be cleaved quite specifically by a protease such as a matrix metalloprotease on a cell surface leading to release of oligonucleotides that are then able to enter the target cell using the Xyton Stealth Delivery vehicle:



Monoclonal antibody recognizing antigen on tumor cell surface, often unique to or often over-expressed on cancer cells

Extracellular protease cleavable linker

Cargo: Oligonucleotides to be delivered by Xyton Stealth Delivery™ platform:
ssDNA or dsRNA to silence cancer genes

No internalization of the antibody is required.

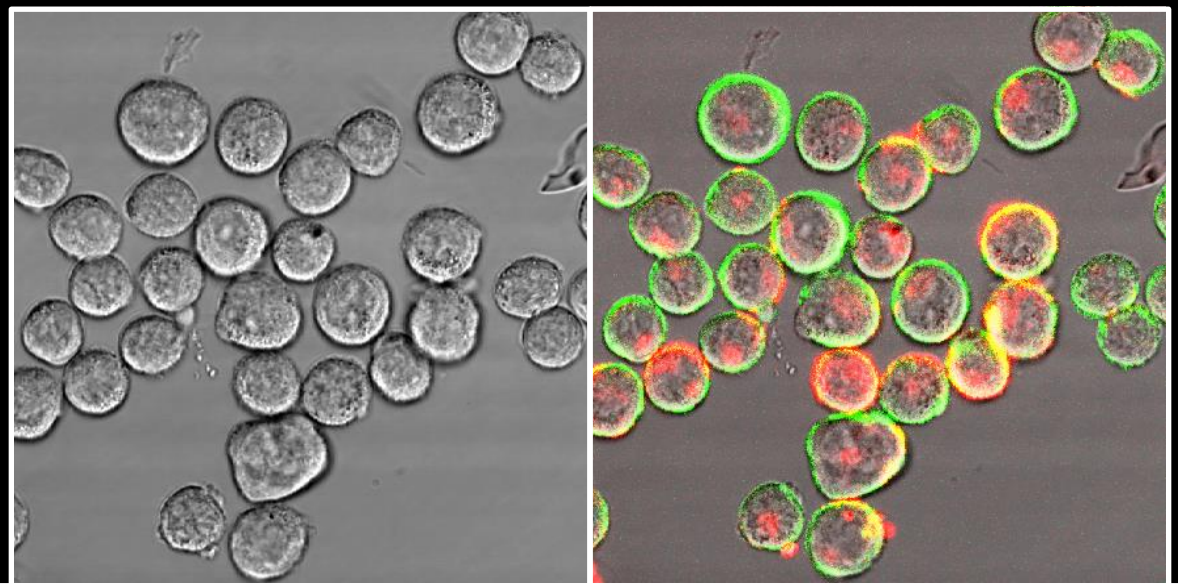
OncoArrestin's Technology

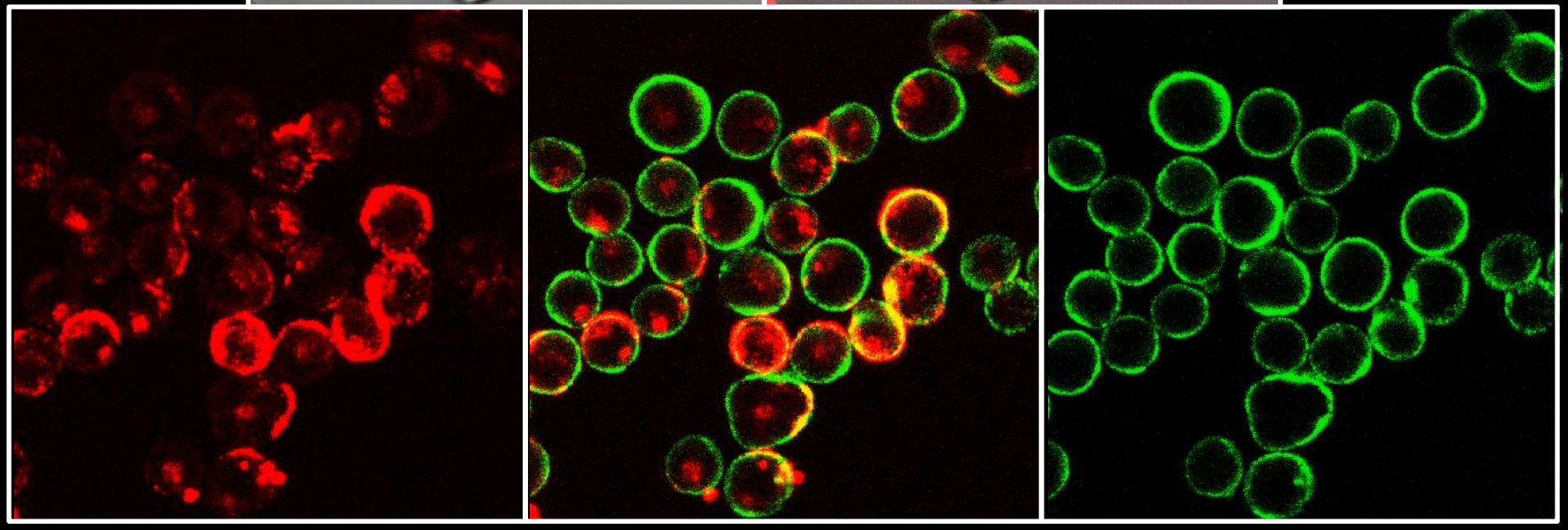
Oligonucleotides are then able to hybridize with mRNAs and block coding for messengers such as Bcl-2, KRAS, actin, and checkpoint molecules.

The following image shows an example of an ASOC composed of a monoclonal antibody (**KE-2**) against an MHC Class I antigen covalently bound to a collagenase substrate (**PLGIA-G2D2)** and an antisense oligonucleotide (ASO) complementary to **β-Actin.** Entry of the **ASO** into colon carcinoma cells (COLO205) is in red and the antibody remaining on the cell surface in green.

COLO205 + KE2-(PLGIA-G2D2)-βActin-R_2D_2 + GαM-FITC

Confocal Imaging





OncoArrestin's Unique Approach

1. Leverage existing cancer-targeted antibodies

2. with OncoArrestin's XSD™ technology

3. to deliver cargo into cancer cells that alters gene expression

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OncoArrestin is currently seeking a partner for development of its patented and patent-pending technologies. Contact for interested parties is info@OncoArrestin.com.

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