

# Ack-Lock

The Next Generation of Cancer Therapy

# Why **AcK-Lock** ?

## Challenges for conventional cancer therapy

- Targeting specific cancers
- Achieving complete cancer remission
- Reducing side effects and increasing safety

**There is an urgent need for agents that address these challenges.**



# What is **AcK-Lock**?

**AcK-Lock**



**It's a simple chemical modification to selectively activate chemotherapeutic agents in cancer cells.**

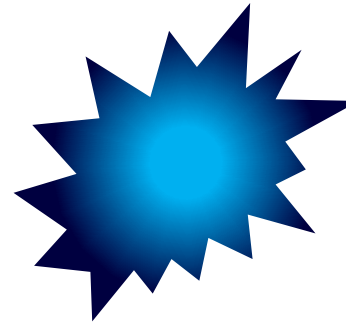
# Cancer cells: HDAC↑ CTSL↑

**HDAC (histone deacetylase)** and **CTSL (cathepsin L)** are highly upregulated enzymes in many human cancer cells. While normal cells express these enzymes at basal level.



**AcK-Lock** works as a substrate for **HDAC** and **CTSL**.

# How to use AcK-Lock?



**Non-specific  
damage to  
normal cells**



+



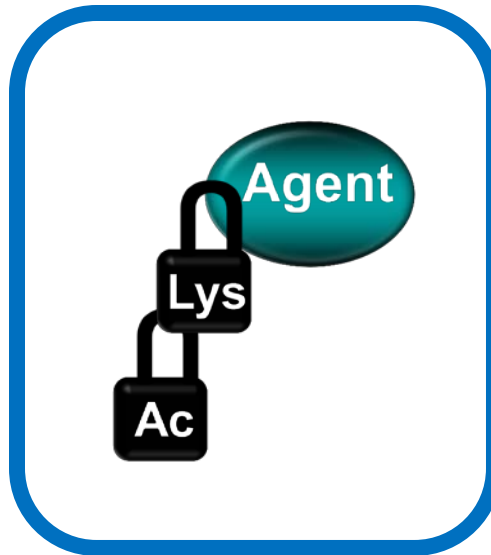
**Inactive in  
normal cells:  
"Safe-Locked"**

AcK-Lock

AcK-Lock conjugated Agent



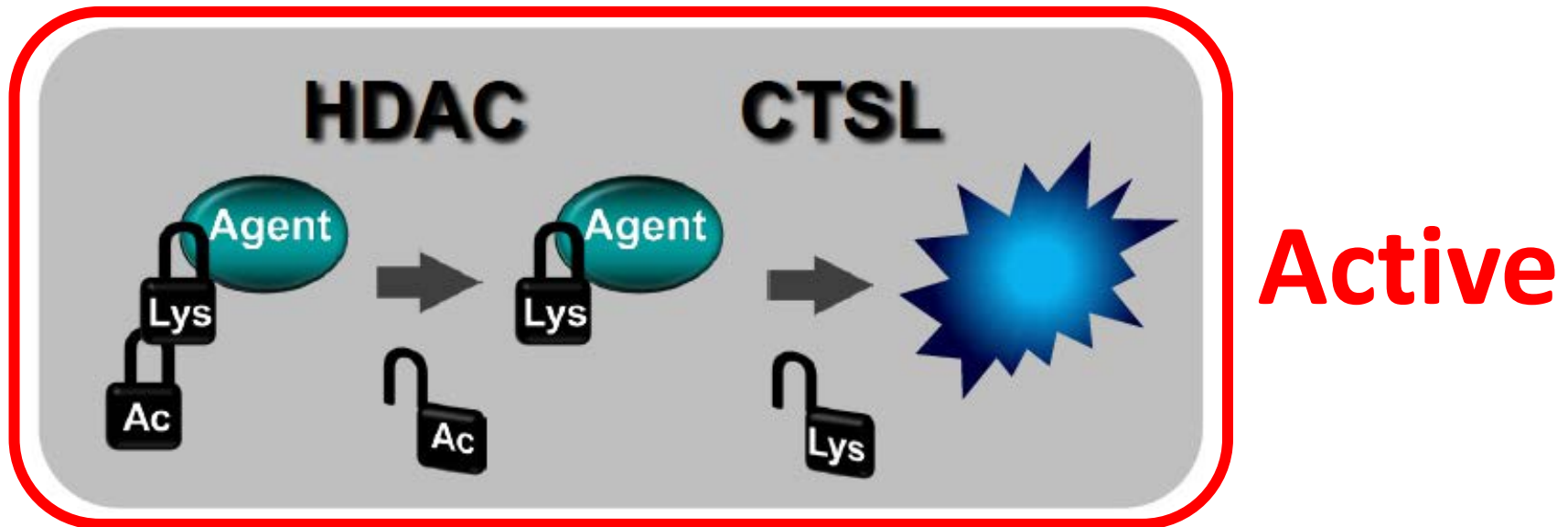
# How does **AcK-Lock** work?



**Normal cells**

**Inactive**  
**“Safe-Locked”**

Increased **HDAC** and **CTSL** in cancer cells lead to **highly specific activation**



Cancer cells: **HDAC**↑ **CTSL**↑

# What cancer can be targeted by **AcK-Lock** ?

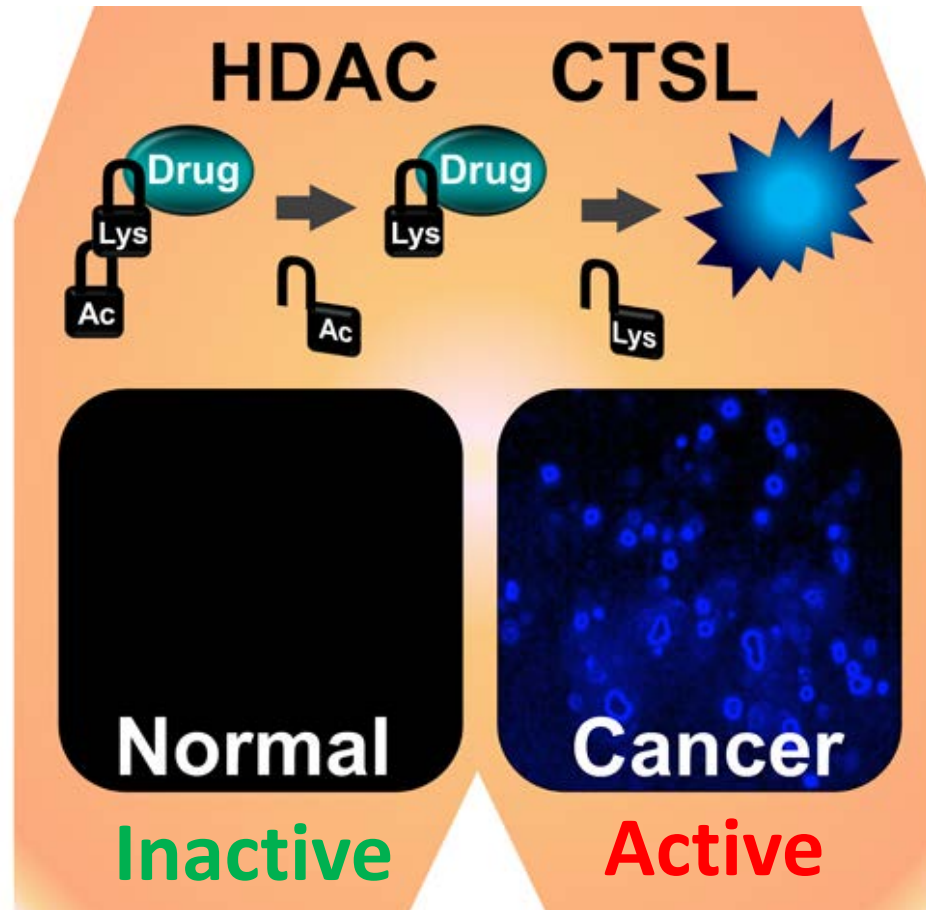
- **Colon**
- **Pancreas**
- **Breast**      and possibly more!
- **Prostate**
- **Lung**

**Our *in vitro* studies have shown that AcK-Lock works for a wide variety of cancers.**





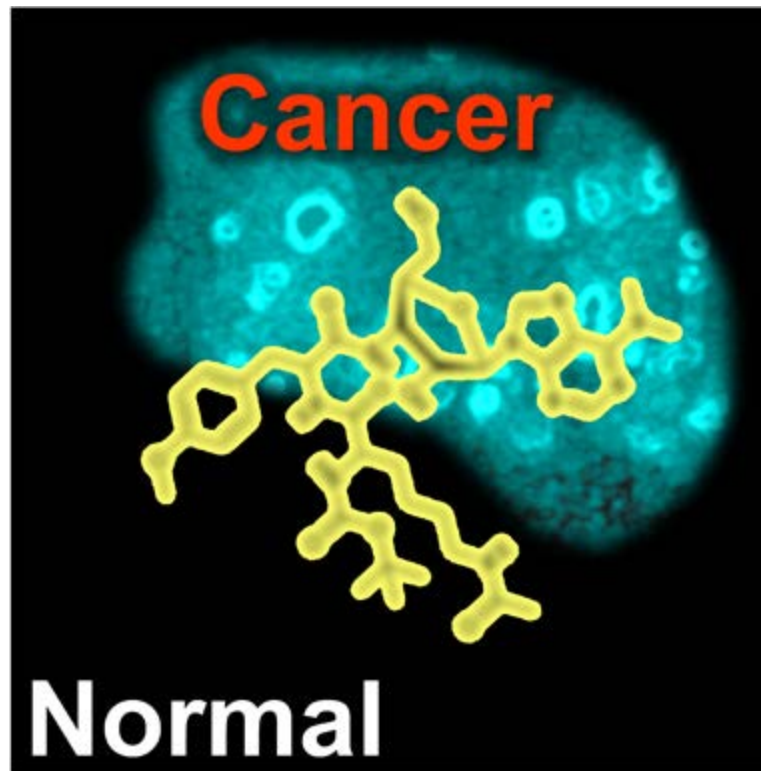
# AcK-Lock for selective cancer targeting



Signal in blue represents dead cells

# Other potential applications for AcK-Lock Technology

In addition to the therapeutic applications, **AcK-Lock Technology** can be used to develop **imaging probes** for selective cancer detection.



# Additional Information

**Intellectual Property Status:** International patents pending on compositions of matter and methods for cancer treatment and imaging.

**Publication:** A full scientific description of **Ack-Lock Technology** has been published in Nature Communications (doi:10.1038/ncomms3735).

**Current Status in Development:** *In vivo* proof-of-concept data available, additional cytotoxic drugs being tested and evaluated using this system.

# Partnering

Our **AcK-Lock** platform has the potential to generate novel candidates for cancer therapy.

We are seeking strategic partners interested in accessing our **AcK-Lock Technology** for the treatment of cancer. We have a growing number of compounds available for partnering. We are also able to collaborate on the partners' proprietary compounds to generate novel **AcK-Locked Agents**.

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