

Cancer Is NOT Two-Dimensional

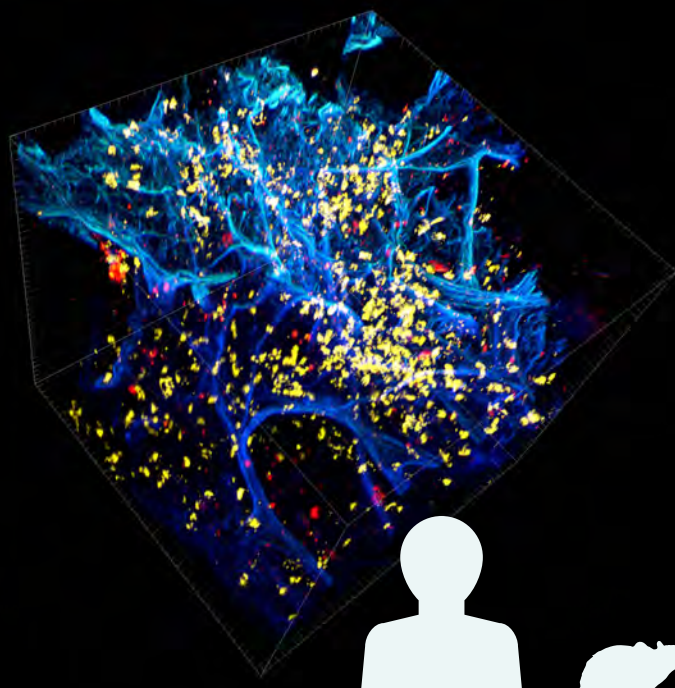
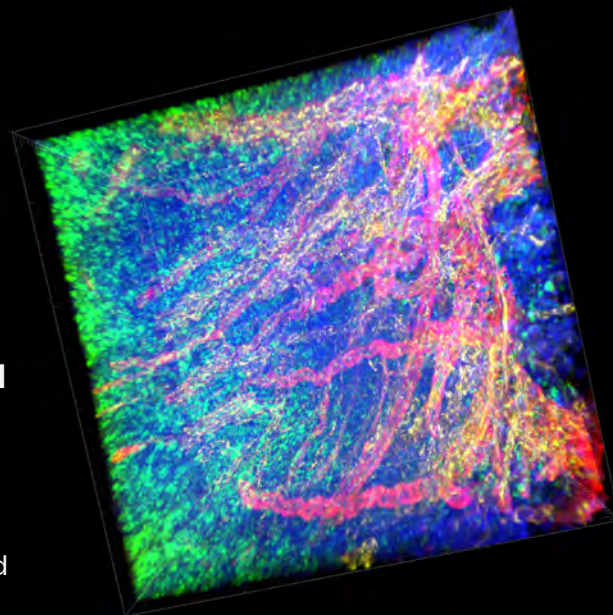
Your Research Deserves **Tru3D™**



Imaging antibodies in 3D reveals novel insights, unobtainable with other technology.

CLARITY Processed and 3D IHC Stained Human Tonsil

An inflamed human tonsil tissue stained with DAPI to clearly identify the individual cell nuclei present within the tissue. Both alpha smooth muscle actin (α -SMA) and CD31 were used to observe possible vasculature with some signal colocalization observed in certain vessels. CD45RO was used as a marker to aid in the identification of regulatory T cells (Tregs).



Gain Insights

into Preclinical Drug Development

Researchers who work with ClearLight begin with a question in mind. The aim is to gain insights for preclinical drug development, e.g., which drug candidates are the least toxic and most effective to advance? ClearLight works with organoids and mouse and human tissues. Researchers gain new insights and pose new research questions. ClearLight's collaborative services support this ongoing iteration. Bring us your burning question.

Concept / Basic Proof
Drug Discovery

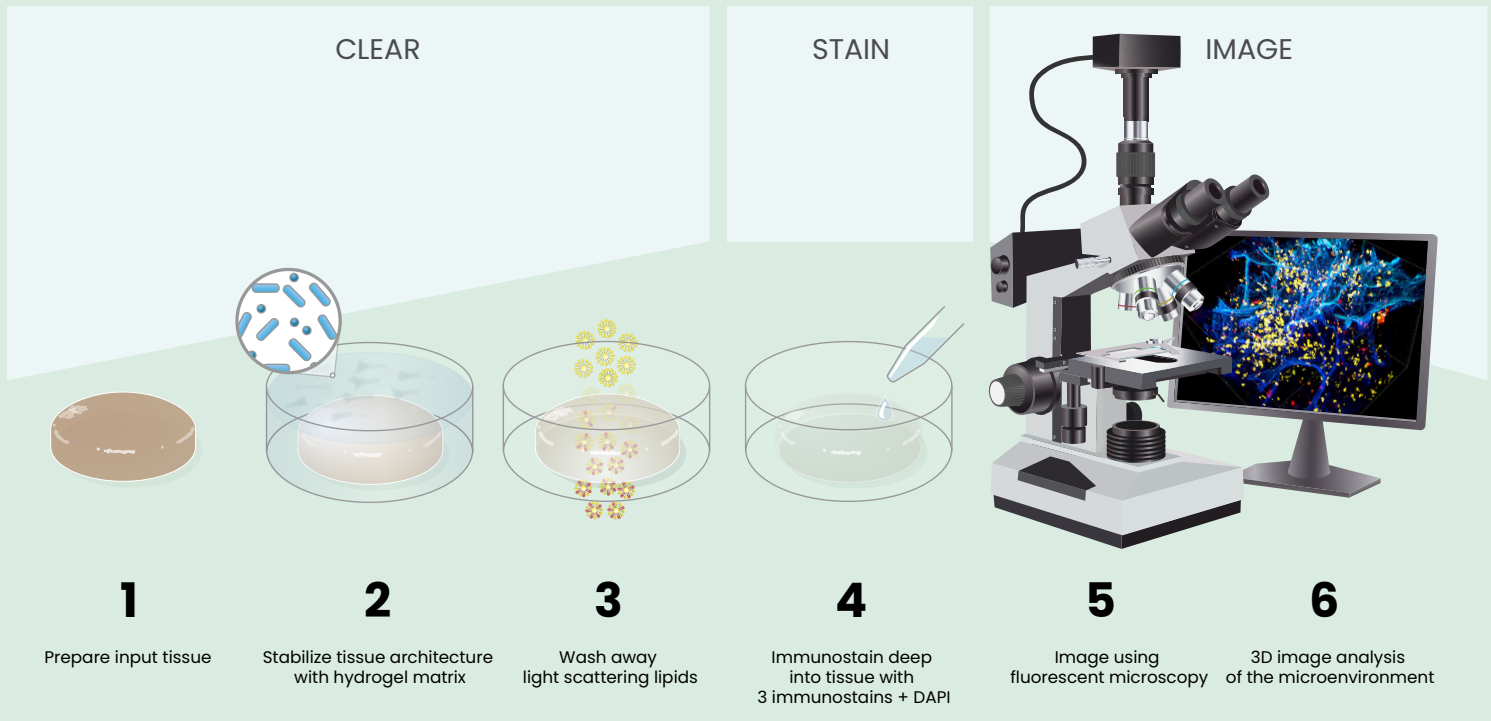
Animal Models
Preclinical Drug Development

Human Research
Clinical Trials - Phase I, II, III

FDA Review
FDA Testing

Specific Research Studies • Narrowing Studies
Combination Studies • Toxicology / Safety Studies

ClearLight Tissue Processing Workflow



ClearLight Provides CLARITY Tissue Clearing and 3D IHC

CLARITY is an acronym for **C**lear **L**ipid-exchanged **A**crylamide-hybridized **R**igid **I**maging / **I**mmunostaining / **i**n situ-hybridization-compatible **T**issue **h**ydrogel)

What is 3D IHC?

- Immunostain deep into CLARITY-cleared tissue (Multiplex with 3 immunostains + DAPI)
- Deep imaging using fluorescent microscopy
- 3D image analysis of microenvironment

Why Collaborate with ClearLight Biotechnologies

- Deep expertise and intellectual property for CLARITY Tissue Clearing
- Experts at thick tissue antibody staining using a library of optimized antibodies
- Tru3D™ Tissue Analysis allows researchers to see more biology than is currently possible with FFPE
- 10x more contiguous and more meaningful data as compared to FFPE slide analysis

ClearLight Mission

ClearLight empowers researchers to see more biology within the tissue microenvironment. We are developing technologies to improve diagnostic, prognostic, and predictive treatment of disease so we can all live healthier lives.

Are You Ready for 3D IHC? Get Started.

ClearLight Biotechnologies, LLC

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Sunnyvale, CA 94085

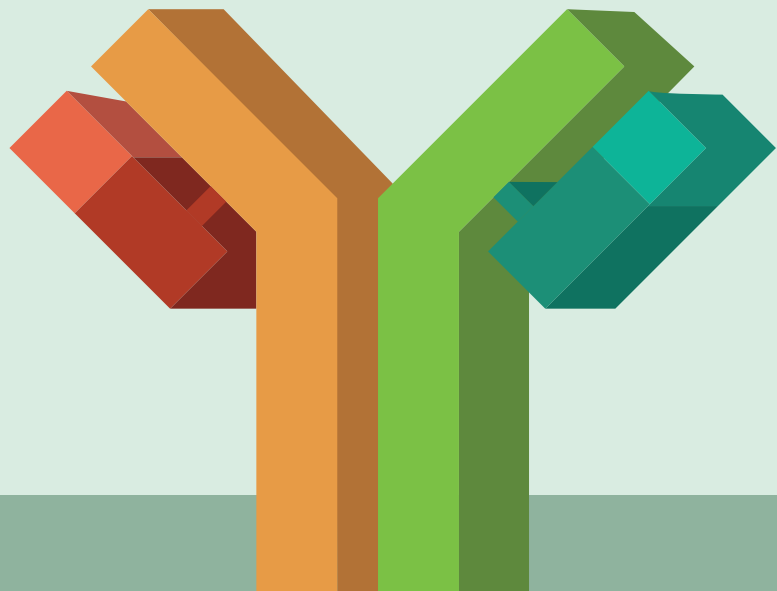
(800) 251-8905

<https://clearlightbiotechnologies.com>

contact@clearlightbiotechnologies.com

Optimized Antibodies for CLARITY

We have optimized the following antibodies for immunostaining mouse and human tissues:



Human



α-SMA	CD45	FAP alpha	pan-cytokeratin
CD3	CD45RO	FoxP3	PD-1
CD4	CD68	HLA-DR	PD-L1
CD8	CD163	Ki67	PGP9.5
CD20	CK 8	Lectin	SOX10
CD31	EGFR	pan-cadherin	Vimentin

Mouse / Rat



α-SMA	CD31	F4/80	MHC Class II
Calbindin	CD45	GFAP	pan-cytokeratin
CD3	CD163	Histone H3	phospho-Histone H3
CD8	CK 8	Ki67	PGP9.5
	CK 19	Lectin	PSD95

Don't see your target of interest? Looking for more antibodies?

We can discuss a pilot study for your antibody of choice. Call (800) 251-8905 or email contact@clearlightbiotechnologies.com with your question.

Our Mission

ClearLight empowers researchers to see more biology within the tissue microenvironment. We are developing technologies to improve diagnostic, prognostic, and predictive treatment of disease so we can all live healthier lives.

Overview

ClearLight Biotechnologies provides contract research and development services to pharmaceutical companies who seek to improve the efficacy of potential drug candidates. The company provides pharmaceutical, biotechnology, and academic researchers with CLARITY Tissue Clearing, 3D immunostaining, and Tru3D image analysis services. The company is developing an automated instrumentation platform based on the CLARITY lipid-clearing technique developed by Dr. Deisseroth and colleagues at Stanford University.

Fast Facts

Founded in 2015 by Karl Deisseroth MD, PhD

Early stage private company backed by Wiegers and affiliates, Pivotal and KESA Partners

Experts at CLARITY Tissue Processing, thick tissue antibody staining, and Tru3D tissue analysis

Provides research use only lab services to pharmaceutical, biotechnology and academic researchers

Developing next-generation tissue processing and image analysis platform to facilitate 3D analysis of preclinical and clinical models of disease

Our History & Commitment

ClearLight Biotechnologies (formerly ClearLight Diagnostics, LLC) was founded in 2015 by Karl Deisseroth MD, PhD, the inventor of CLARITY, Optogenetics, and STARmap technologies. It is an early stage company focused on developing automated instrumentation and associated reagents to simplify and expedite non-destructive 3D tissue analysis to facilitate preclinical and clinical research applications. The platform will enable an end-to-end solution for 3D analysis of preclinical and clinical models of disease.

The ClearLight Difference

- ◆ Worldwide license for diagnostic and clinical use of CLARITY method from Stanford University
- ◆ Exclusive worldwide license to develop and commercialize CRYSTAL method (Active CLARITY)
- ◆ CLARITY and CRYSTAL enable the clearing process to be expedited in a controlled manner, making the process amenable to automation
- ◆ Expertise at thick tissue antibody staining using a wide selection of validated Ab stains optimized to penetrate deeply into tissues
- ◆ Tru3D Tissue Analysis allows pathologists and drug researchers to see more biology than is currently possible with traditional 2D FFPE thin section methods
- ◆ CLARITY based tissue clearing services offer 10x more contiguous and more meaningful data as compared to current gold standard 2D FFPE thin-sections
- ◆ Proprietary AI software to analyze 3D images (under development)

Accolades

ClearLight and researchers at the Indiana University's Melvin and Bren Simon Cancer Center collaborated on the publication of "Three-dimensional Imaging and Quantitative Analysis in CLARITY Processed Breast Cancer Tissues." This paper received an award as one of the top 100 downloaded cancer papers on Nature.com Scientific Reports in 2019.

Contact Us

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