AKOYA
BIOSCIENCES®
THE SPATIAL BIOLOGY COMPANY®

Welcome To Opal
Unlock the Power of Spatial Biology
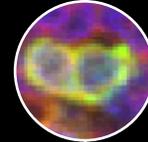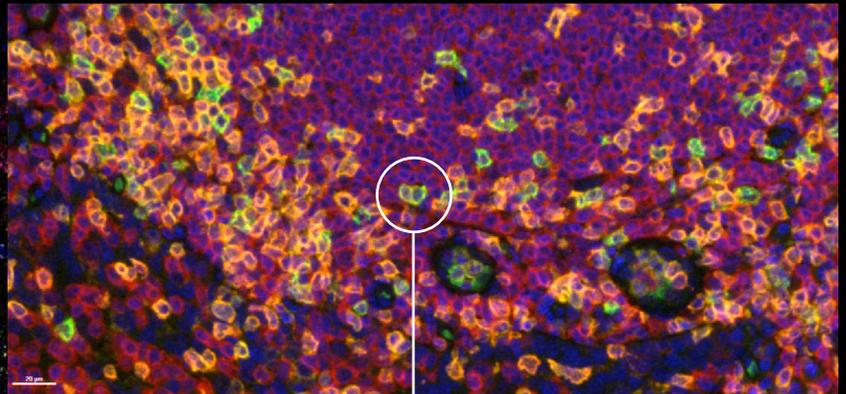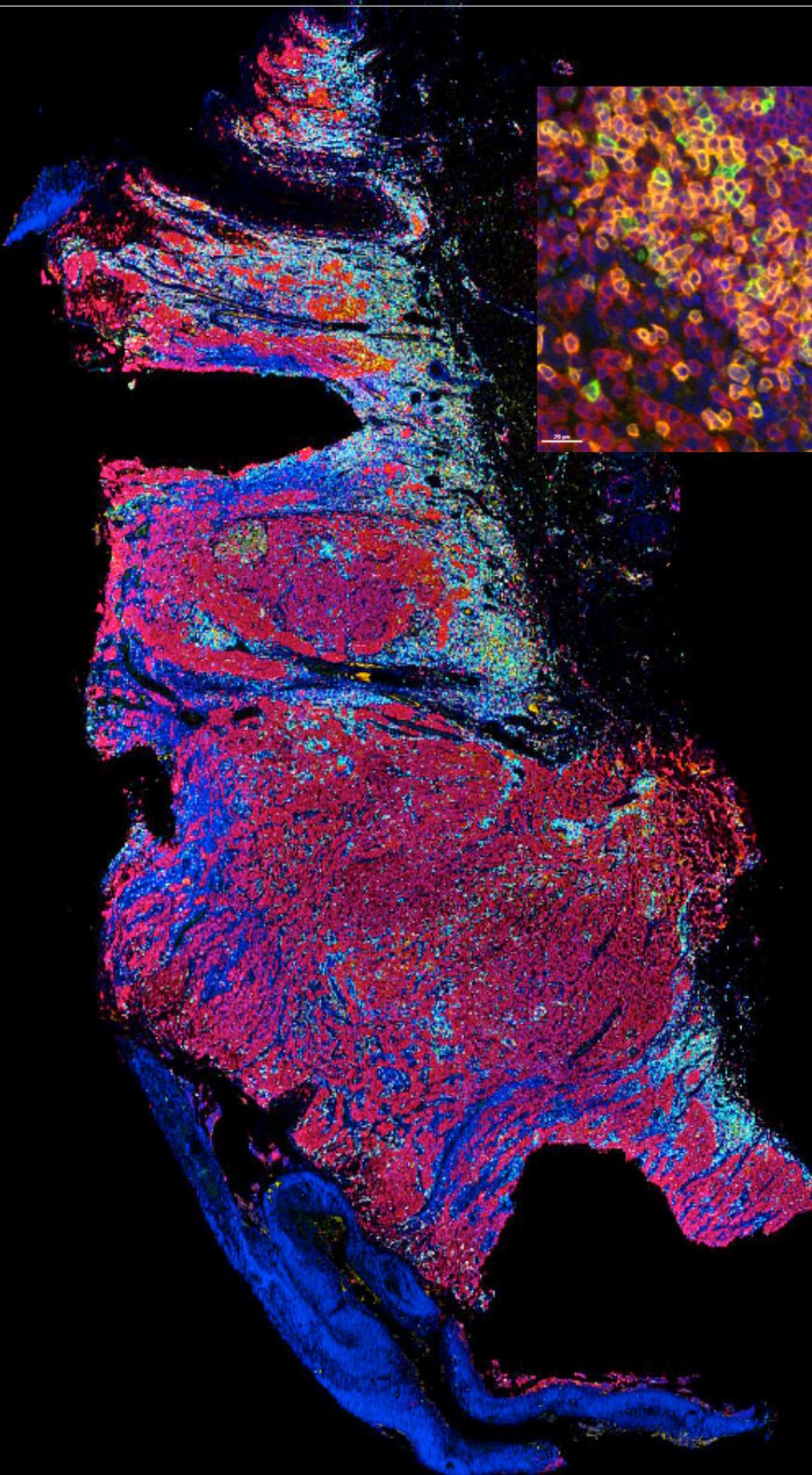
Detecting Multiple Markers of Interest on the Same Cell

Welcome To Opal

What is Opal?

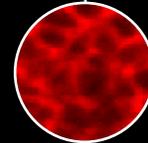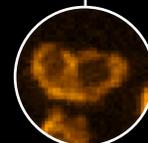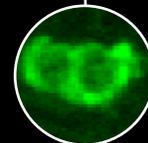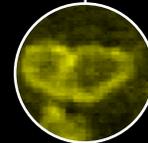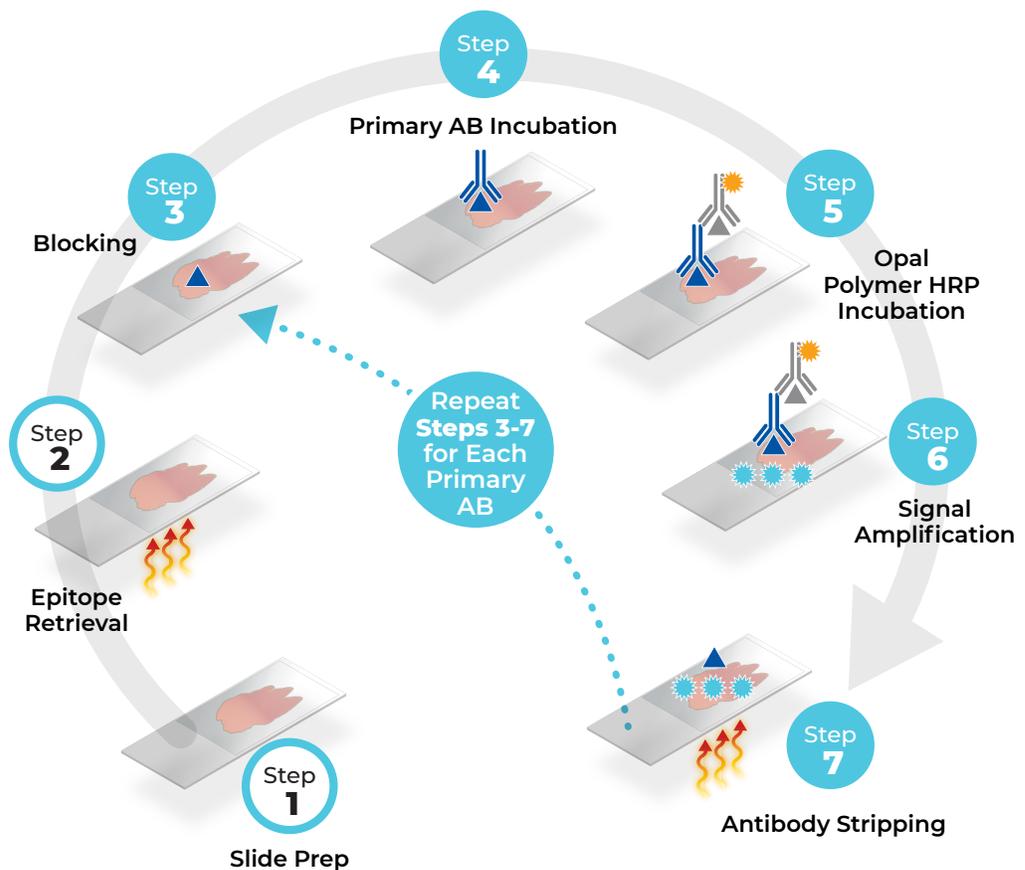Opal™ is a method for multiplex fluorescent immunohistochemistry in formalin-fixed, paraffin-embedded (FFPE) tissue that can be performed manually or via automation. It allows the use of standard unlabeled primary antibodies, including multiple antibodies raised in the same species. The method involves detection with Opal reactive fluorophores that covalently label the epitope. After labeling is complete, antibodies are removed in a manner that does not disrupt the Opal fluorescence signal. This allows the next target to be detected without fear of antibody cross-reactivity. Opal enables the development of multiplexed assays with balanced, quantitative signal for rare and abundant targets, imaged in a single final scan with the Akoya portfolio of multispectral imagers, including the **The PhenoImager™ HT (formerly Vectra® Polaris™).**.

Iterative Staining Diagram for Opal Multiplex IHC Assays

Step 4 — Primary AB Incubation

Step 3 — Blocking

Step 5 — Opal Polymer HRP Incubation

Step 2 — Epitope Retrieval

Repeat **Steps 3-7** for Each Primary AB

Step 6 — Signal Amplification

Step 1 — Slide Prep

Step 7 — Antibody Stripping

Opal Multiplex assays are based on traditional IHC staining workflows.

We've rebranded some of our products. Phenoptics™ is now PhenoImager™ and Vectra® Polaris™ is now PhenoImager™ HT.
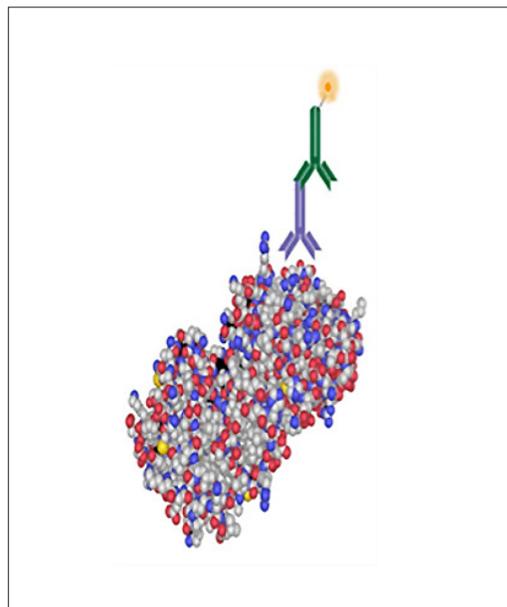
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Opal Enables You To...

- Use the best primary antibodies, regardless of species – with no cross-reactivity

- Identify multiple cell phenotypes while retaining spatial and morphological context that is lost with bulk measurements and flow cytometry

- Get more information from precious and scarce samples

- Image once, without coverslip removal

Opal Uses Tyramide Signal Amplification (TSA) as Part of the Multiplexing Workflow to:

- Improve sensitivity by 10 to 100-fold

- Achieve excellent resolution with low background

- Higher dynamic range (up to 4 logs) compared to chromogenic (up to 1 log)

- Reduce antibody consumption

- Better correlation between protein expression and signal intensity (better quantification, e.g. phenotypic scoring)

- Increase plexing for multiple biomarker detection strategies

- Add signal amplification to almost any immunoassay

Standard Detection	TSA Detection
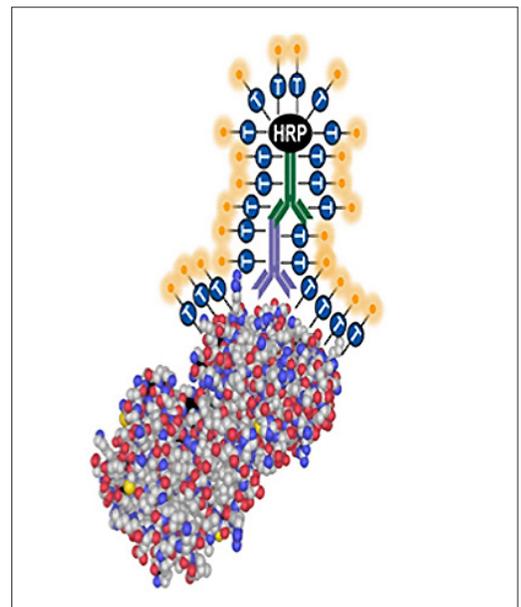
Contact us today to learn more about in-person and virtual Akoya Academy sessions!

OPAL MOTIF KITS

Opal™ MOTiF™ Antibody Panel Kits are pre-optimized, ready-to-use primary and secondary antibody panels designed for use with the Leica BOND RX and PhenoImager HT Instruments.

Opal MOTiF Kits		
Name	Size	Part #
MOTiF™ PD-1/PD-L1 Panel: Pan I/O Kit	50 slides	OP-000001
MOTiF™ PD-1/PD-L1 Panel: Auto Melanoma Kit	50 slides	OP-000003

LEARN MORE: www.akoyabio.com/contact-a-sales-representative/

OPAL MANUAL MULTIPLEX IHC DETECTION KITS

Opal™ kits come complete with all your necessary secondary antibodies and detection reagents for use on Akoya imaging platforms.

Opal Kits & Reagents		
Name	Size	Part #
Opal 7 Color Manual IHC Detection Kit	50 slides	NEL861001KT
Opal 7-Color Manual IHC Kit	50 slides	NEL811001KT
Opal 4-Color Manual IHC Kit	50 slides	NEL810001KT
Opal 7 Solid Tumor Immunology Kit	50 slides	OP7TL4001KT
Opal 7 Tumor Infiltrating Lymphocyte Kit	50 slides	OP7TL3001KT
Opal 7 Immunology Discovery Kit	50 slides	OP7DS2001KT
Opal 4 Lymphocyte Kit	50 slides	OP4LY2001KT
Opal 4-Color Anti-Rabbit Manual IHC Kit	50 slides	NEL840001KT

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OPAL AUTOMATION MULTIPLEX IHC DETECTION KITS

With our Opal Automation IHC kits you can perform Opal multiplex staining on one of the leading research automated staining platforms – the BOND RX™ by Leica Biosystems. Automation provides you with the flexibility to support the dynamic demands of translational research.

Opal Kits & Reagents		
Name	Size	Part #
Opal 7 Color Automation IHC Detection Kit	50 slides	NEL871001KT
Opal 7-Color Automation IHC Kit	50 slides	NEL821001KT
Opal 4-Color Automation IHC Kit	50 slides	NEL820001KT
Opal 4-Color Anti-Rabbit Automation IHC Kit	50 slides	NEL830001K

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Additional Resources

Please visit **www.akoyabio.com/support** for additional resources, including FAQs and publications.

Opal, as part of the PhenoImager Workflow solution from Akoya Biosciences, is the most flexible and dynamic workflow to interrogate the spatial relationships between different phenotypes within the context of the tissue microenvironment.

For more information on the Opal methodology and workflow, please visit our website to view support resources, including our new Opal Assay Development Guide and **Opal Quick Start Tool**, an interactive form with guidance based on published data from top researchers using Opal as their spatial biology platform.

Reach out to us at **customercare@akoyabio.com** with any questions or to request a quote today.

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