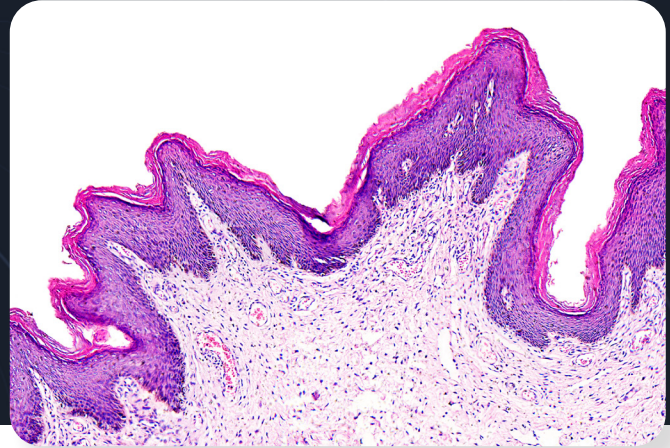


## CASE STUDY

# Quantifying chromosome instability at scale

How Volastra Therapeutics annotated tumor pathology images 6 x faster with Centaur Labs



## Overview

Volastra Therapeutics has combined its understanding of chromosomal instability (CIN), drug development and data science into the CINtech platform it uses to identify therapeutic targets, gain biological insight, and develop novel drugs to treat chromosomally unstable cancers.

## Challenge

- Developing ML models to quantify chromosome instability at scale
- Annotation system didn't scale - senior leaders annotating on nights and weekends; Produced 2-3 reads per case; high effort, low throughput
- Needed 100K+ images from DAPI and H&E pathology slides segmented and classified

## Solution

- Segmented cells in mitotic stages in 15K DAPI stained images; then classified CIN-specific defects in 20K images; Segmented cells in mitotic stages in 119K tiled images from various tumor types
- Centaur Labs generated 154K annotations, at a rate of 3,200 - 7,300 annotations per week, generating 5-12 qualified opinions per annotation
- 61% - 89% agreement with Gold Standard cases

## Impact

- ✓ **6 times faster** annotation than prior system, annotation work completed in 2 weeks, when would've taken 12 weeks in-house
- ✓ **240 hours saved** from annotating on nights and weekends
- ✓ Durable data annotation system for the long term that can **support large volumes of data** across diversity of tumor types

*"We're excited by the high throughput and quality of annotations we get with Centaur Labs - I would definitely recommend working with them."*



**Sarah Bettigole**

VP of Immunology and Data Science