



CellEngine

Cloud-based cytometry analysis software for high-dimensional data, featuring machine learning-based autogating, advanced visualizations, and regulatory compliance.

<https://cellcarta.com/>

Overview

CellEngine is a cloud-based software-as-a-service (SaaS) platform designed for comprehensive cytometry analysis, including flow, mass, and spectral cytometry data. It is optimized for speed, capable of analyzing large, high-dimensional datasets and millions of cells in minutes, which is significantly faster than many other analysis tools.

Key Features and Capabilities:

Advanced Cytometry Analysis: Supports end-to-end analysis of flow, mass, and spectral cytometry data from a web browser.

Supervised Autogating: Utilizes machine learning to automatically tailor gates based on a small set of manually gated files, reducing subjectivity and increasing consistency across large datasets.

Advanced Algorithms: Includes optimized implementations of dimensionality reduction (UMAP, t-SNE, PCA) and clustering algorithms (FlowSOM, PhenoGraph, ECG, Leiden).

Metadata-Driven Visualization: Enables the creation of advanced charts and visualizations, such as heatmaps, dose-response curves, bar/line charts, and pivot tables, all organized and filtered by experiment metadata.

Comprehensive API: Offers a first-class HTTP API with dedicated toolkits for R and Python, allowing for integration with LIMS, ELN, EMR, and bioinformatics pipelines.

Regulatory Compliance: Provides all the necessary features for use in regulatory-compliant workflows, including FDA 21 CFR Part 11 and EU Annex 11.

Target Users and Use Cases: CellEngine is leveraged by its parent company, CellCarta (a CRO), for their global flow cytometry analysis services, including multi-year clinical

studies. It is offered as a SaaS solution to external users, targeting research groups, academic institutions, and pharmaceutical/biotech companies that require a GXP-ready platform for analyzing clinical trial data and high-volume, high-dimensional cytometry experiments.

Key Features

- Cloud-Based Cytometry Analysis (Flow, Mass, Spectral)
- Supervised Autogating (Machine Learning-based)
- Advanced Dimensionality Reduction (UMAP, t-SNE, PCA)
- Clustering Algorithms (FlowSOM, PhenoGraph, ECG)
- Metadata-Driven Visualization and Analysis
- Regulatory Compliance (FDA 21 CFR Part 11)
- Comprehensive API with R and Python Toolkits
- Batching and Dynamic Illustration Templates

Pricing

Model: subscription

Subscription is per concurrent user slot ("seat") per month. User accounts are free, but a seat is required for login. Pricing is tiered for Industry/General (\$265/seat/month) and Academic (\$138/seat/month). Subscriptions include unlimited data analysis and 400 GB of pooled data storage per seat. Additional options like Automatic Gate Tailoring, 21 CFR 11-Compliant License (\$265/seat/month), and Custom Domain (for SSO) are available as add-ons.

Starting at: USD \$138

Target Company Size: medium, enterprise, academic

Integrations

LIMS (via API), ELN (via API), EMR (via API), Bioinformatics Pipelines (via API), BD FACSDiva™ (FCS file import), Cytobank (FCS file import)

Compliance & Certifications

FDA 21 CFR Part 11, EU Annex 11

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