

Cell Painting, a high-content image-based assay for morphological profiling using multiplexed fluorescent dyes

MA Bray, S Singh, H Han, CT Davis, B Borgeson... - Nature protocols, 2016 - nature.com

In **morphological profiling**, quantitative data are extracted from microscopy images of **cells** to identify biologically relevant similarities and differences among samples based on these profiles. This protocol describes the design and execution of experiments using **Cell** ...

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Systematic morphological profiling of human gene and allele function via Cell Painting

MH Rohban, S Singh, X Wu, JB Berthet, MA Bray... - Elife, 2017 - elifesciences.org

We hypothesized that human genes and disease-associated alleles might be systematically functionally annotated using **morphological profiling** of cDNA constructs, via a microscopy-based **Cell Painting** assay. Indeed, 50% of the 220 tested genes yielded detectable ...

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Image-Based Morphological Profiling Identifies a Lysosomotropic, Iron-Sequestering Autophagy Inhibitor

L Laraia, G Garivet, DJ Foley, N Kaiser... - Angewandte Chemie ..., 2020 - Wiley Online Library

... Open Access. Image-Based **Morphological Profiling** Identifies a Lysosomotropic, Iron-Sequestering Autophagy Inhibitor. Assist ... Institut Curie, CNRS UMR 3666, INSERM U1143, PSL University Paris, Chemical **Cell** Biology Group, 26 Rue d'Ulm, 75248 Paris Cedex 05, France ...

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Predicting cell health phenotypes using image-based morphology profiling

GP Way, M Kost-Alimova, T Shibue... - ... Biology of the Cell, 2021 - Am Soc Cell Biol

... identified subpopulations based on the respective channel intensities and **morphological** properties for ... See <https://github.com/broadinstitute/lincs-cell-painting> for complete details and instructions ... we applied a CellProfiler image analysis pipeline to segment **cells**, adjusted for ...

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Morphological profiling identifies a common mode of action for small molecules with different targets

T Schneidewind, A Brause, A Pahl, A Burhop... - ..., 2020 - ncbi.nlm.nih.gov

... [13] U-2OS **cells** are large, flat, grow in monolayer and adhere well to plastic and, thus, are especially well suitable for imaging. [14] ... 3580 reference compounds were **profiled** in the **cell painting** assay with the goal to employ the resulting **morphological** fingerprints for target ...

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A dataset of images and morphological profiles of 30 000 small-molecule treatments using the Cell Painting assay

MA Bray, SM Gustafsdottir, MH Rohban, S Singh... - ..., 2017 - academic.oup.com

... To maximize the **morphological** information extracted from a single assay, we sought to “**paint** the **cell**” with as many distinct fluorescent **morphological** ... Balancing technical and cost considerations, we developed the **Cell Painting** assay protocol, in which **cells** are stained ...

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Phenotypic profiling of reference chemicals across biologically diverse cell types using the cell painting assay

C Willis, J Nyffeler, J Harrill - SLAS DISCOVERY: Advancing ..., 2020 - journals.sagepub.com

Cell Painting is a high-throughput phenotypic profiling assay that uses fluorescent cytochemistry to visualize a variety of organelles and high-content imaging to derive a large number of morpholog...

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Morphological profiling of small molecules

S Ziegler, S Sievers, H Waldmann - Cell Chemical Biology, 2021 - Elsevier

... Access. Advanced. **Cell** Chemical Biology **Cell** Chemical Biology. Volume 28, Issue 3, 18 March 2021, Pages 300-319. Journal home page for **Cell** Chemical Biology. Review. **Morphological profiling** of small molecules. Author links ...

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Establishing **cell painting** in a smaller chemical biology lab—A report from the frontier

EB Svenningsen, TB Poulsen - *Bioorganic & medicinal chemistry*, 2019 - Elsevier

... 4.4. Imaging for **cell painting** ... Lastly, Hoechst 33342 in PBS was added to the wells. The **cells** were imaged in a Zeiss Celldiscoverer 7 at 10X magnification at four sites per well. The images were analysed in **Cell Profiler** 3.0.0 by counting the nuclei and measuring FAM intensity ...

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Data-analysis strategies for image-based **cell profiling**

JC Caicedo, S Cooper, F Heigwer, S Warchal, P Qiu... - *Nature* ..., 2017 - nature.com

This Review covers the steps required to create high-quality image-based profiles from high-throughput microscopy images. Image-based cell profiling is a high-throughput strategy for the quantification of phenotypic differences among a variety of cell populations. It paves the ...

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