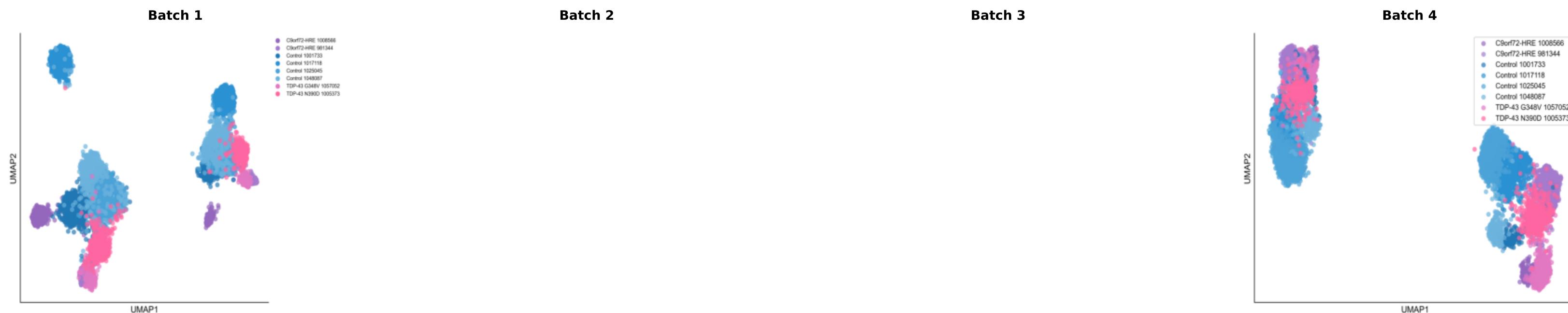


UMAP2 | Condition: all_conditions | Marker: all_markers

MULTIPLEX_CONDITIONS



MULTIPLEX_CELL_LINES



MULTIPLEX_CELL_LINES_CONDITIONS



UMAP2 | Condition: all_conditions | Marker: DNA_RNA_DEFECTS_MARKERS

MULTIPLEX_CONDITIONS

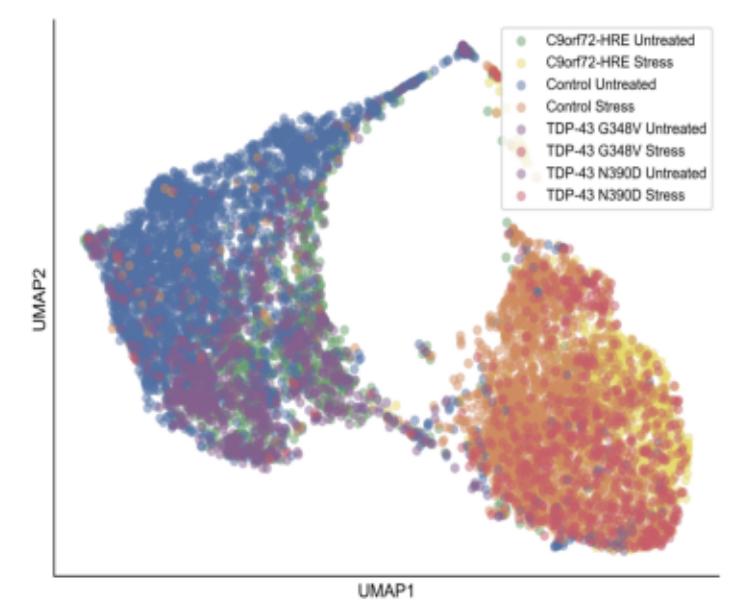
Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES

Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES_CONDITIONS

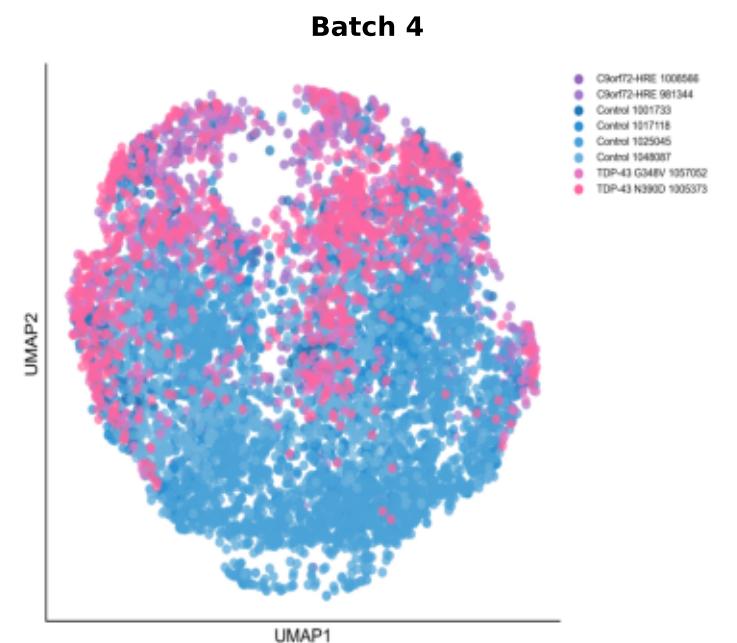
Batch 1 Batch 2 Batch 3 Batch 4



UMAP2 | Condition: all_conditions | Marker: PROTEOSTASIS_MARKERS

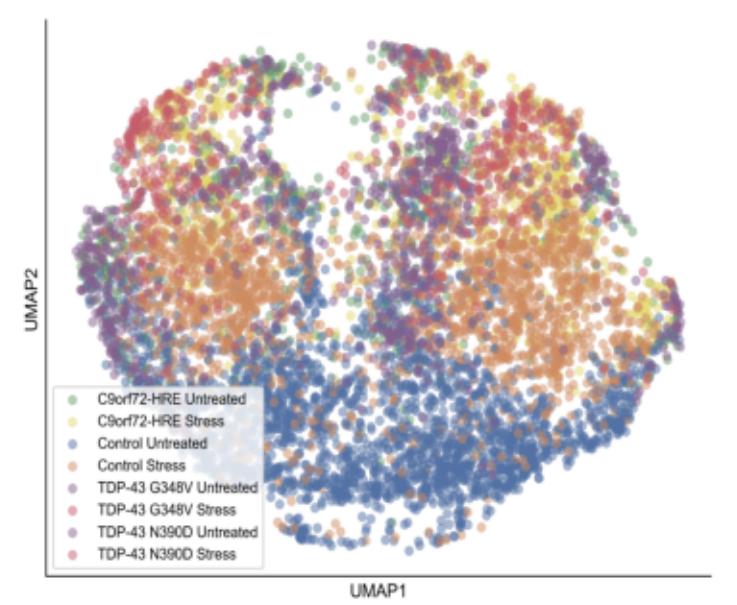
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: NEURONAL_CELL_DEATH_SENESCENCE_MARKERS

MULTIPLEX_CONDITIONS

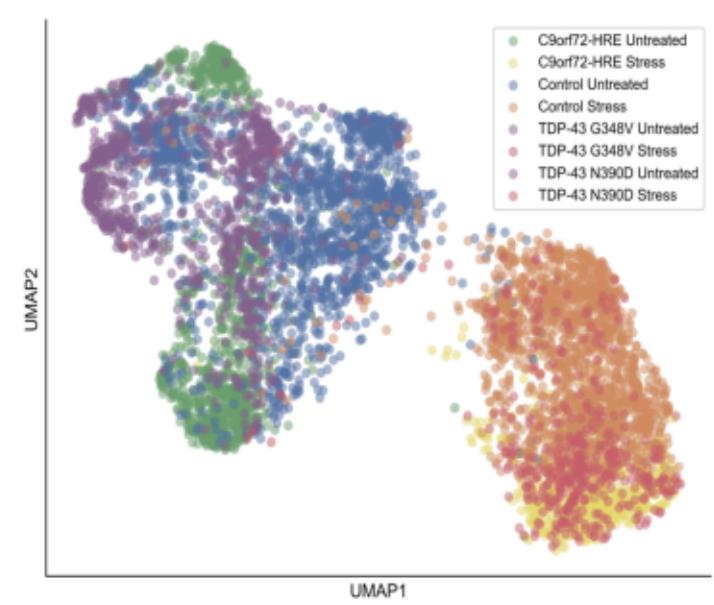
Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES

Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES_CONDITIONS

Batch 1 Batch 2 Batch 3 Batch 4



UMAP2 | Condition: all_conditions | Marker: SYNAPTIC_NEURONAL_FUNCTION_MARKERS

MULTIPLEX_CONDITIONS

Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES

Batch 1 Batch 2 Batch 3 Batch 4

MULTIPLEX_CELL_LINES_CONDITIONS



UMAP2 | Condition: all_conditions | Marker: DAPI

MULTIPLEX_CONDITIONS

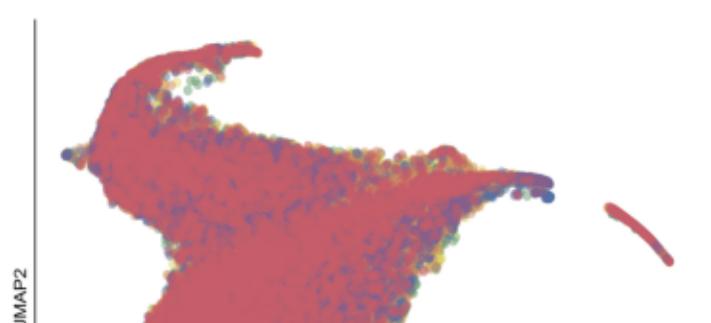
Batch 1 **Batch 2** **Batch 3** **Batch 4**



- C9orf72-HRE 1008666
- C9orf72-HRE 981344
- Control 1017733
- Control 1017718
- Control 1025045
- Control 1048087
- TDP-43 G348V 1957052
- TDP-43 N390D 1005373

MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



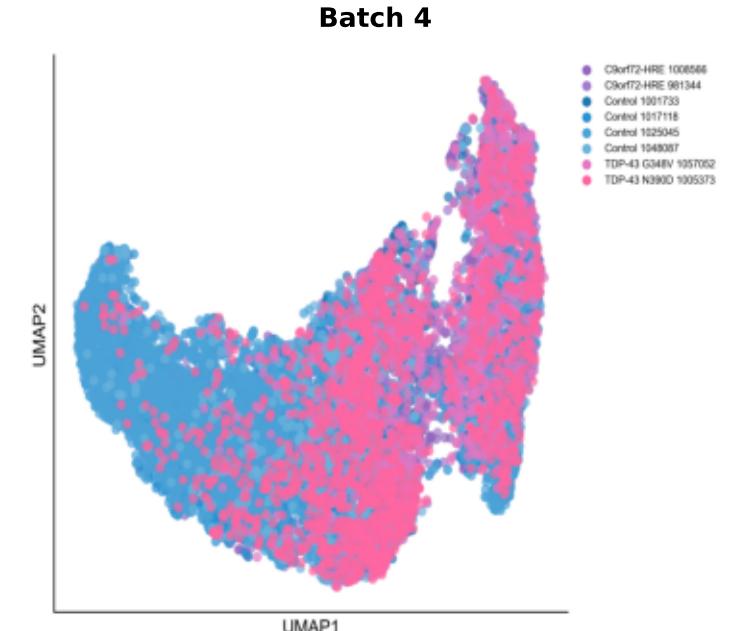
- C9orf72-HRE Untreated
- C9orf72-HRE Stress
- Control Untreated
- Control Stress
- TDP-43 G348V Untreated
- TDP-43 G348V Stress
- TDP-43 N390D Untreated
- TDP-43 N390D Stress

MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Stress-initiation

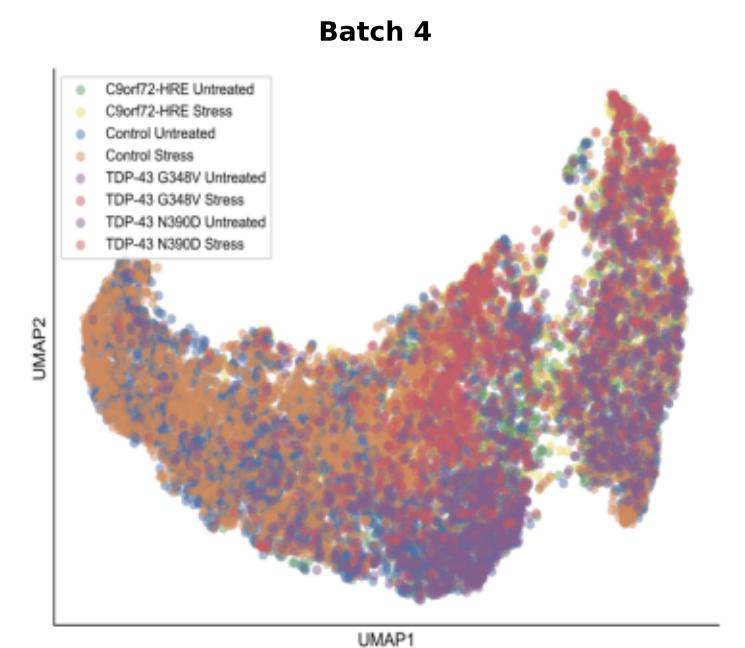
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

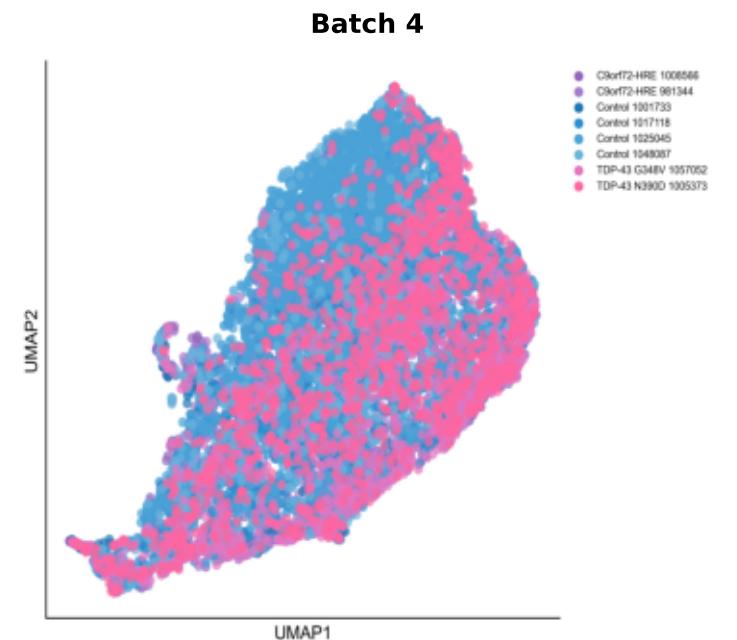


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: mature-Autophagosome

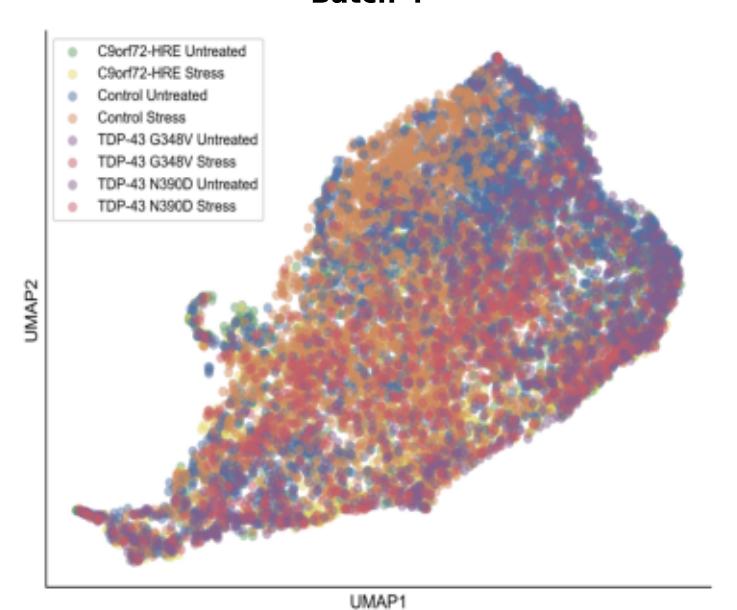
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

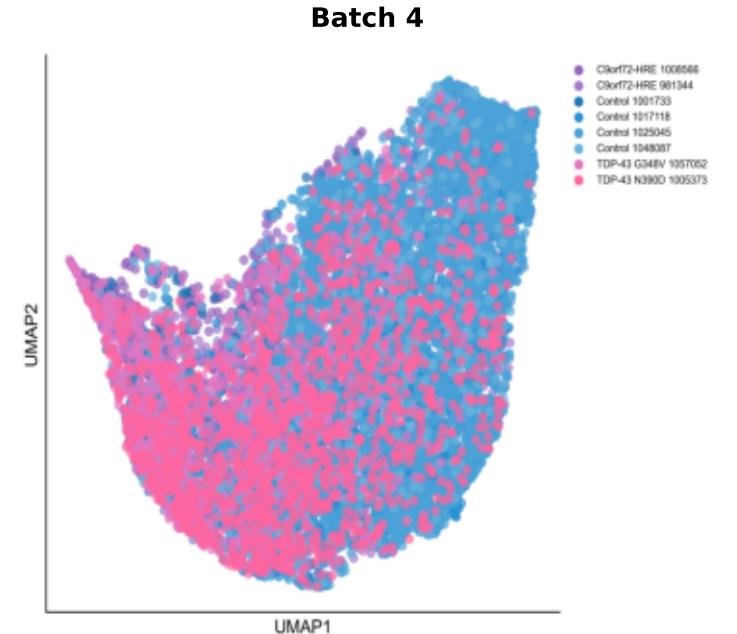


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Cytoskeleton

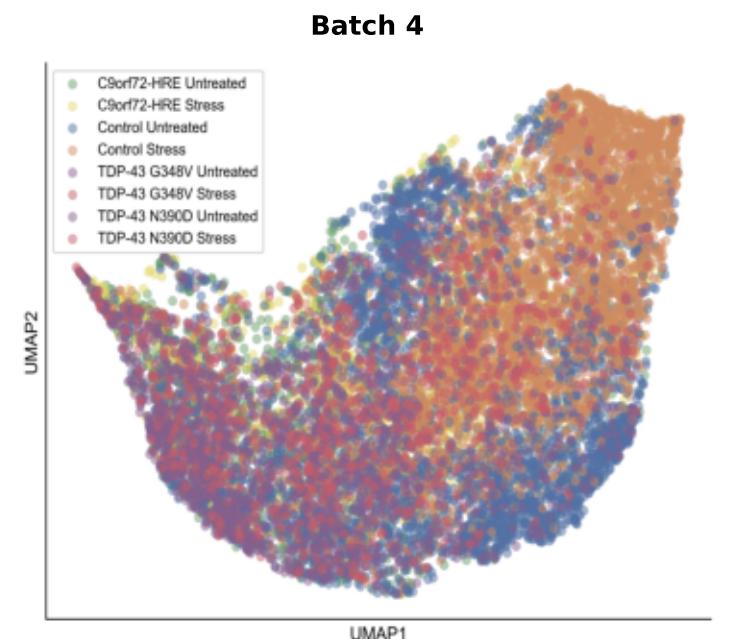
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

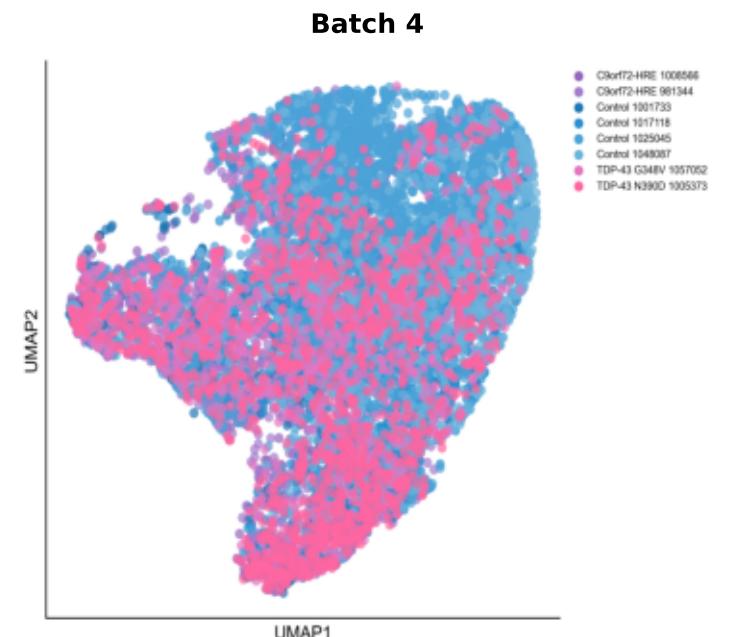


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Ubiquitin-levels

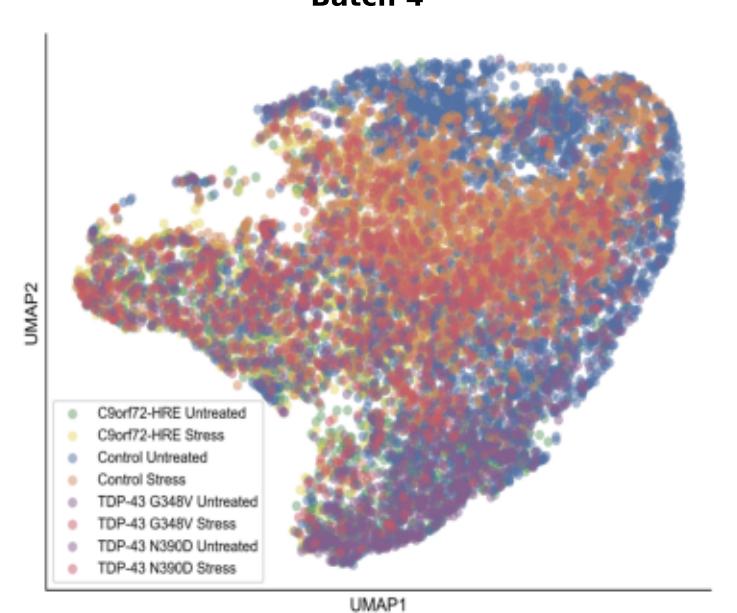
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

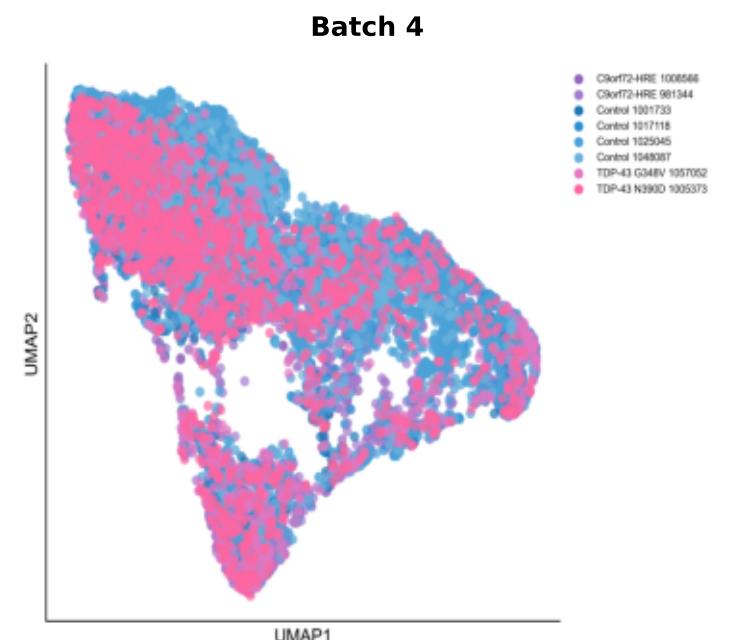


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: UPR-IRE1a

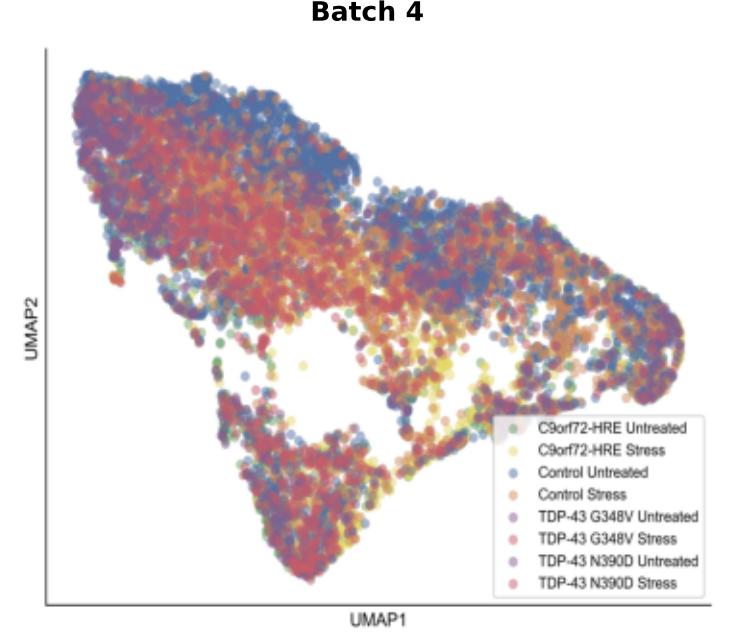
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

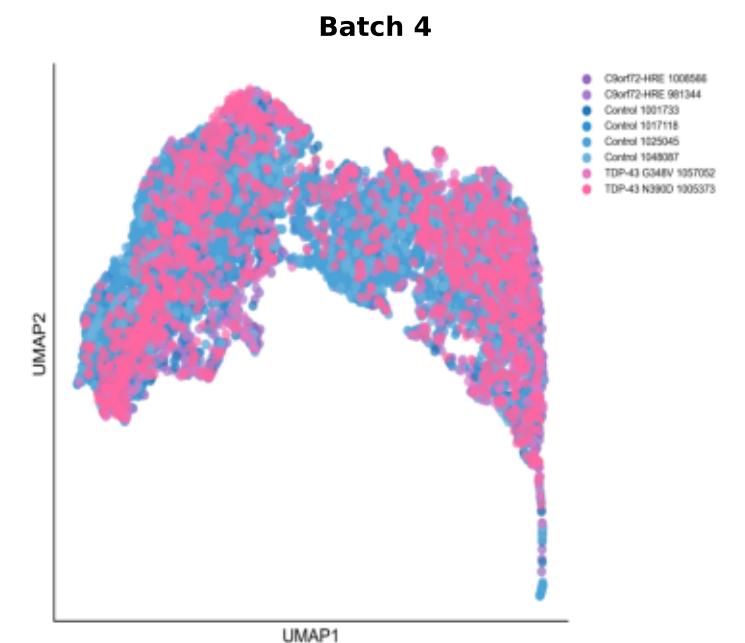


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: UPR-ATF4

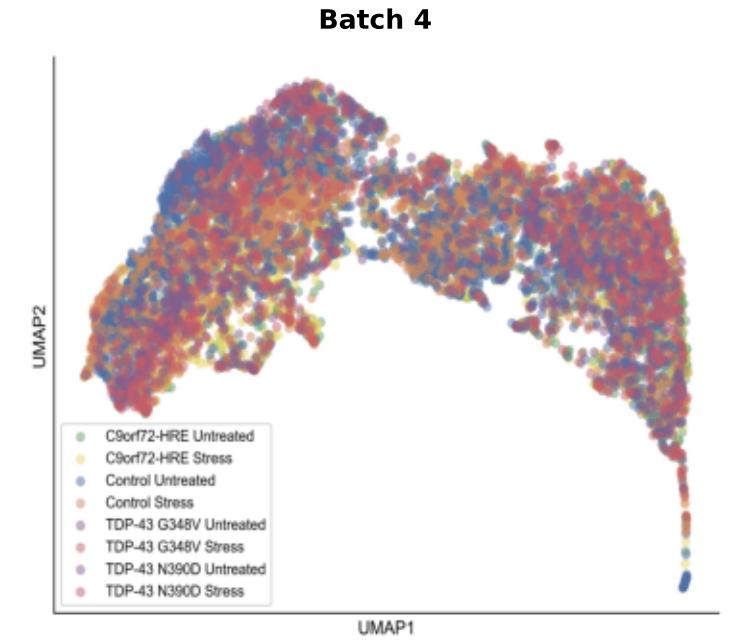
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

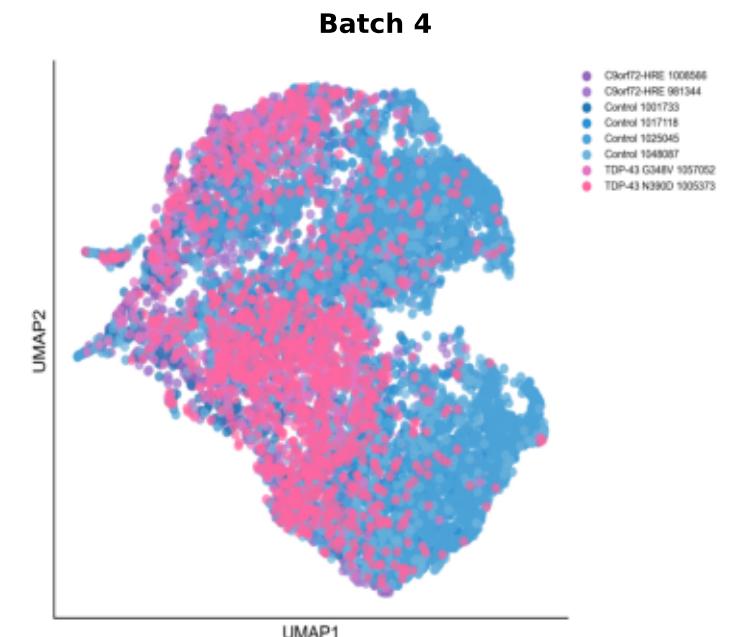


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: UPR-ATF6

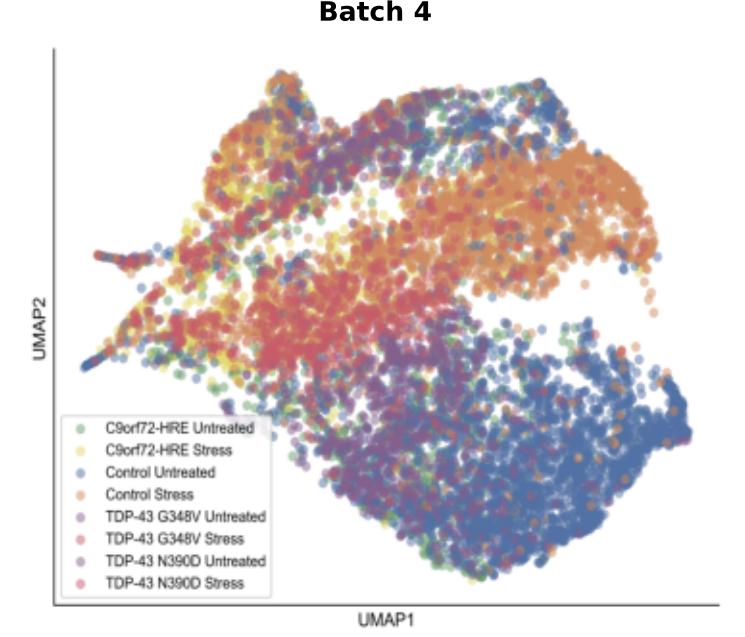
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

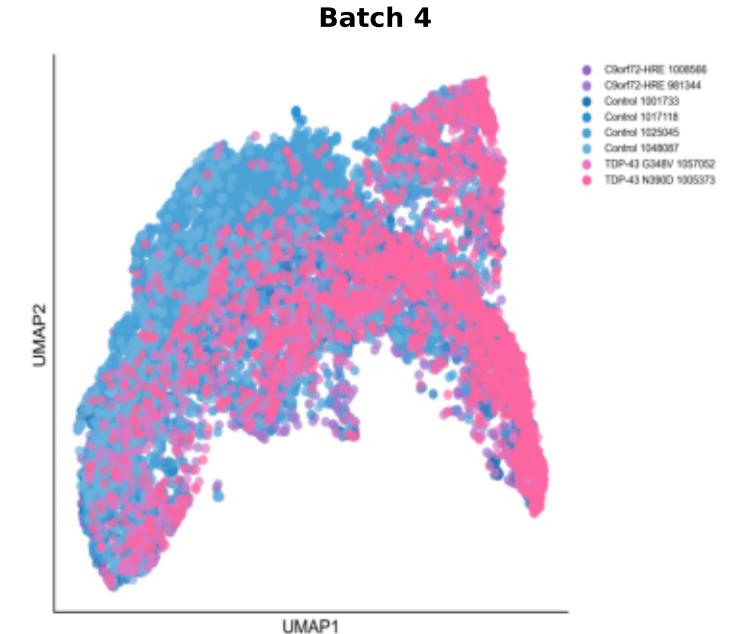


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: impaired-Autophagosome

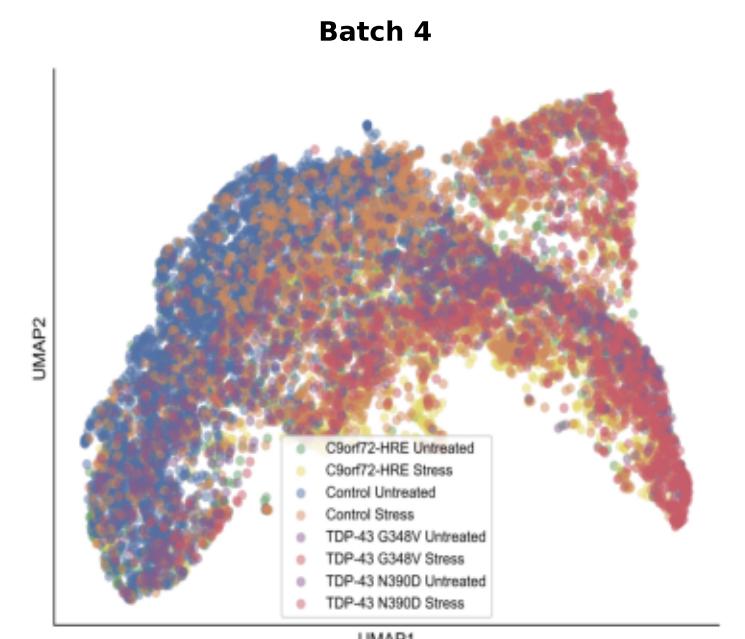
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

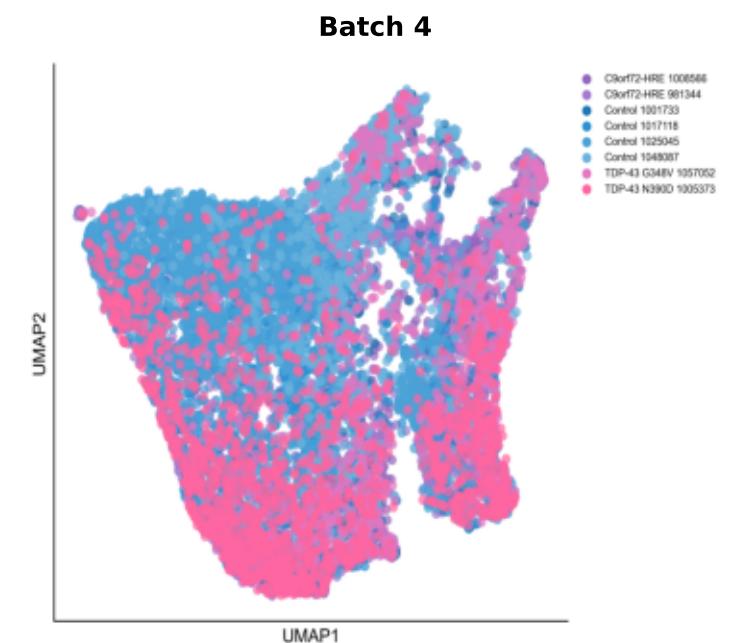


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Autophagy

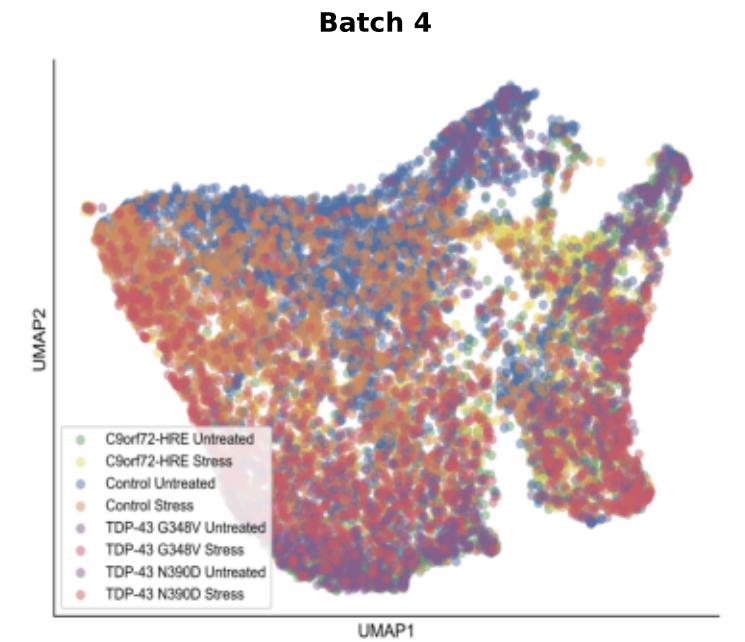
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

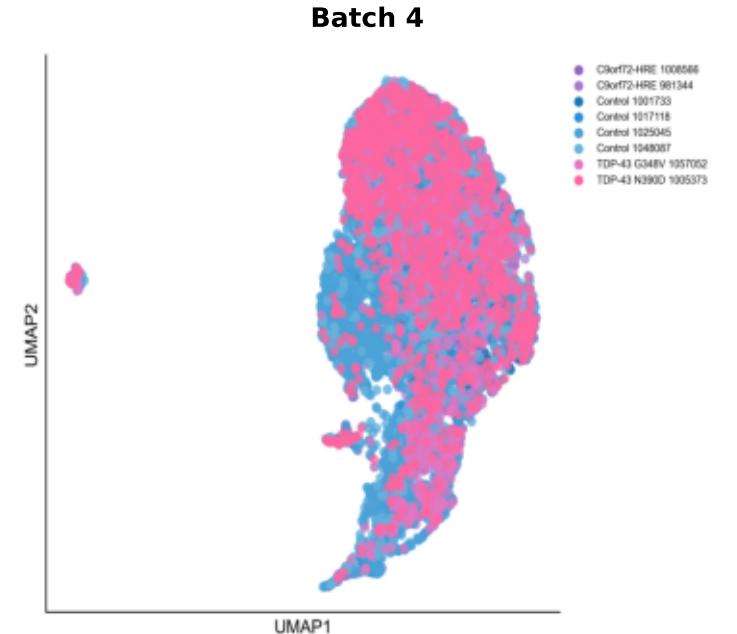


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Aberrant-splicing

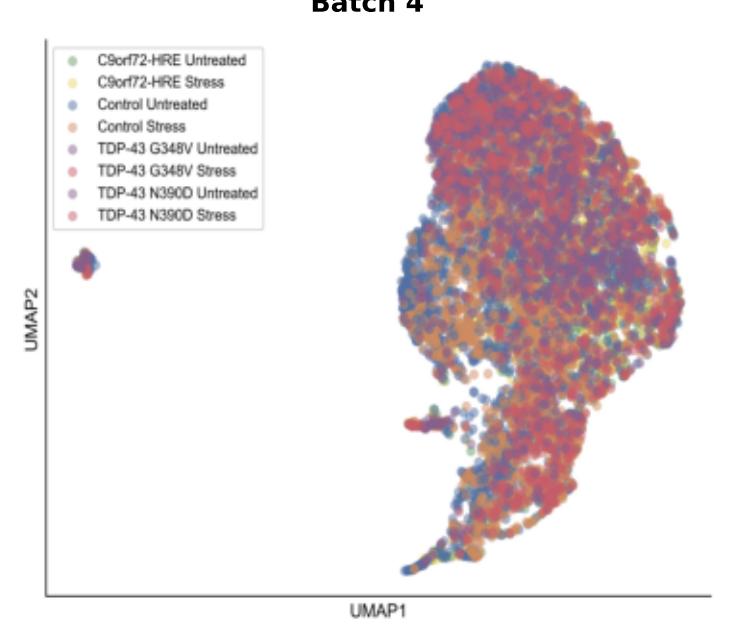
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

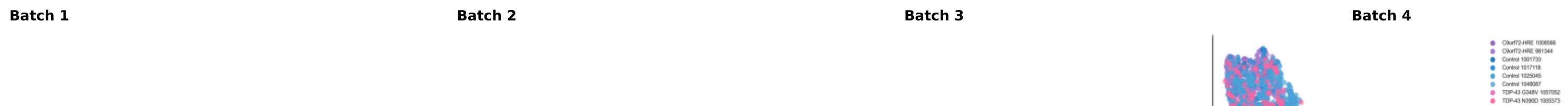


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Parthanatos-late

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

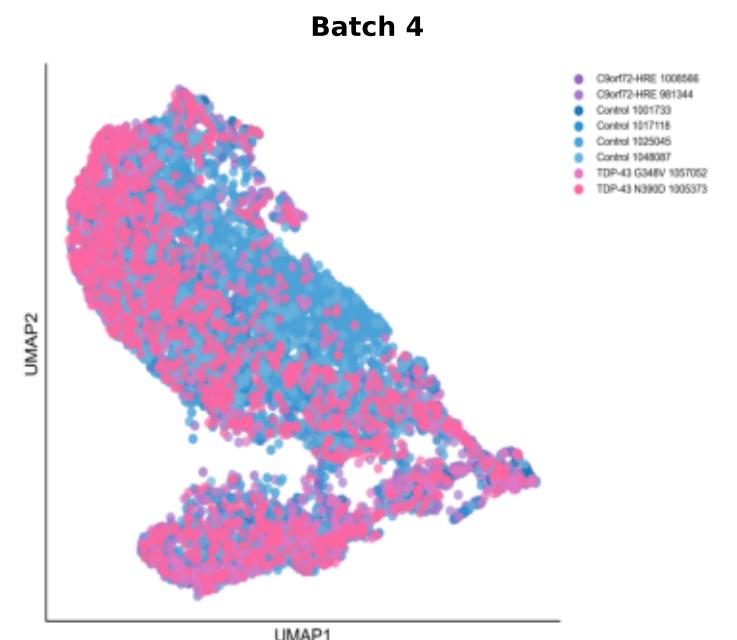


MULTIPLEX_CELL_LINES_CONDITIONS

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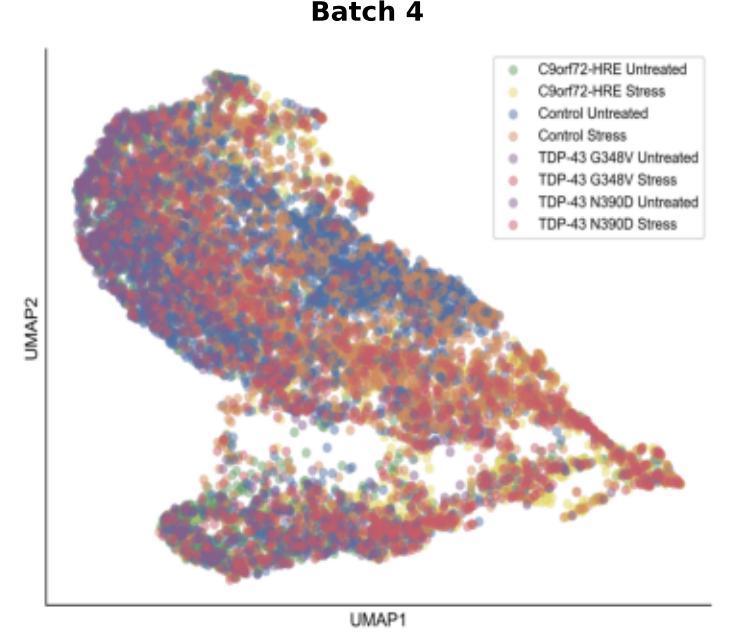
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Splicing-factories

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: TDP-43

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

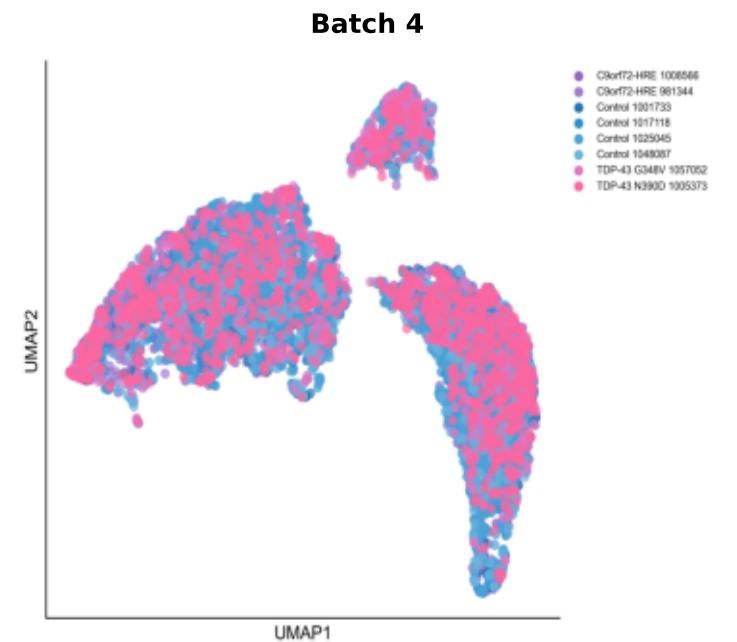


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Nuclear-speckles-SON

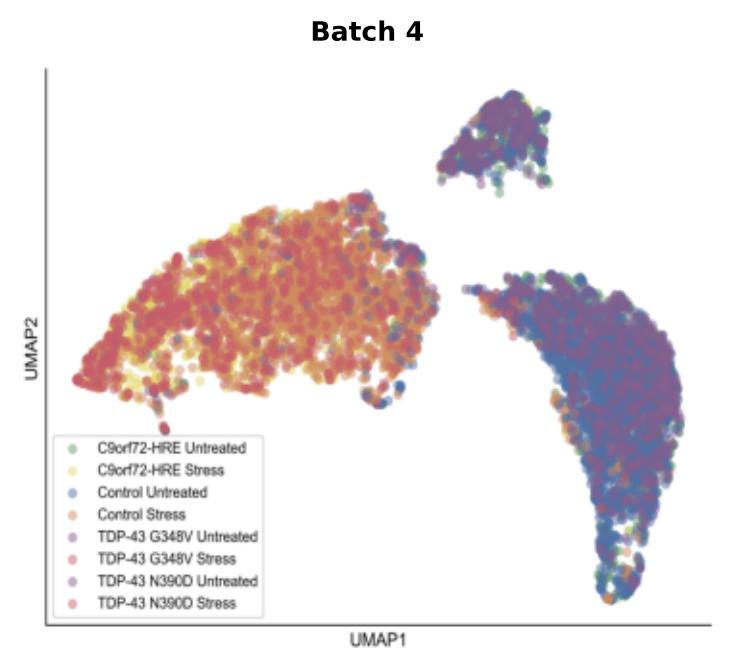
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

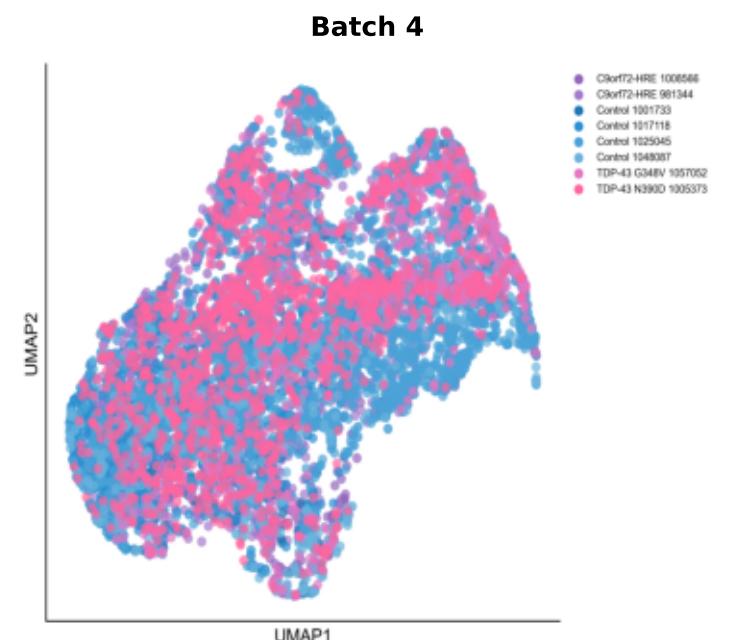


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: DNA-damage-pH2Ax

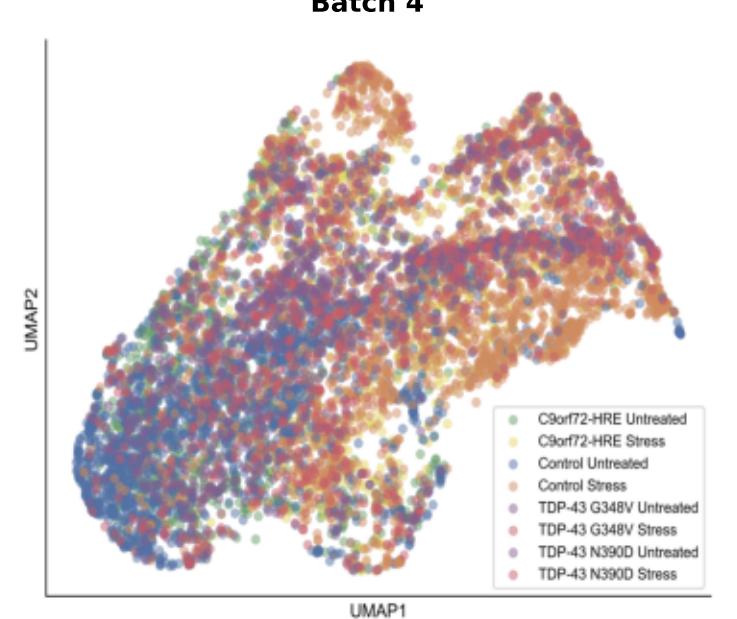
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

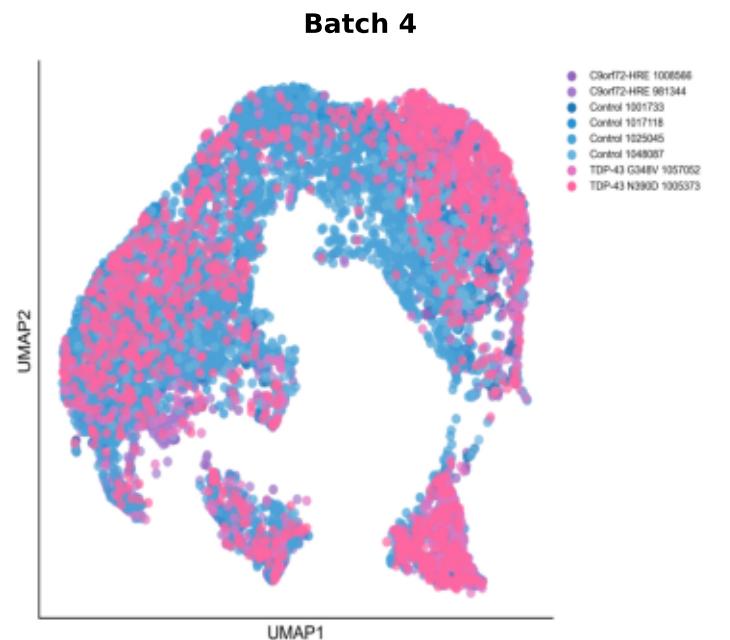


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Parthanatos-early

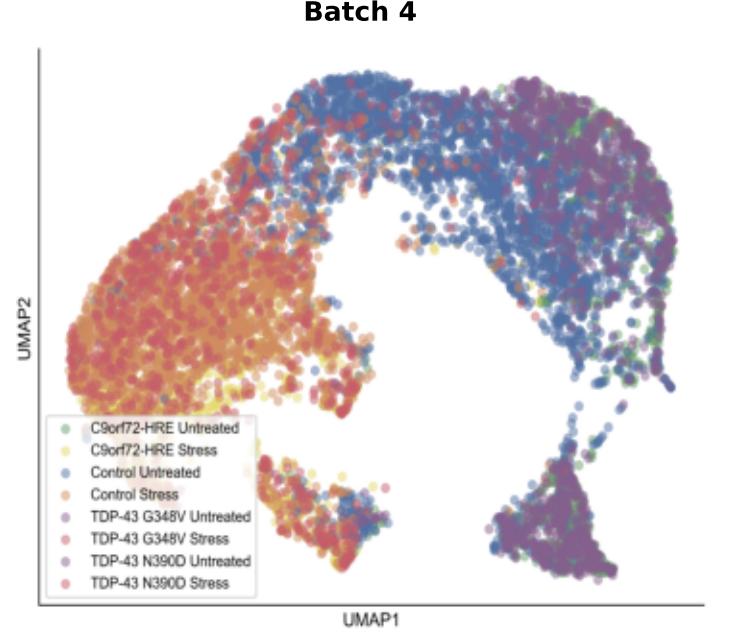
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Necrosis

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

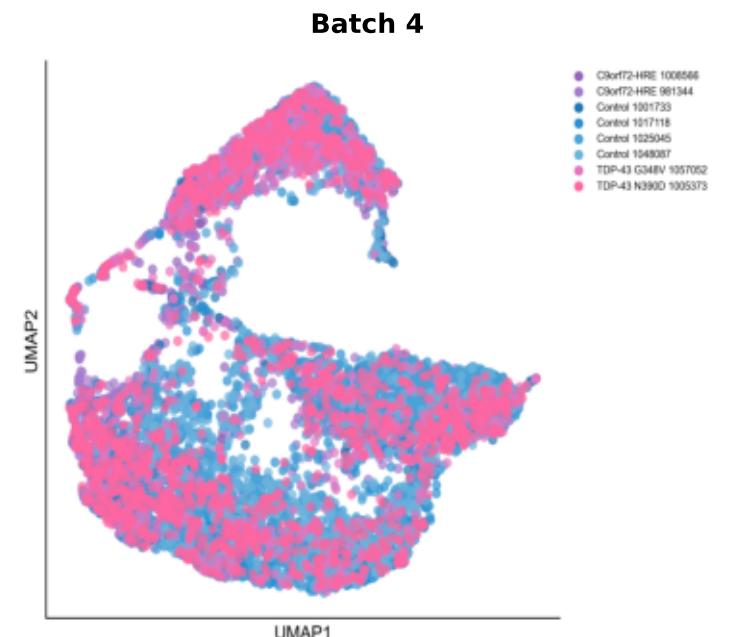


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Necroptosis-HMGB1

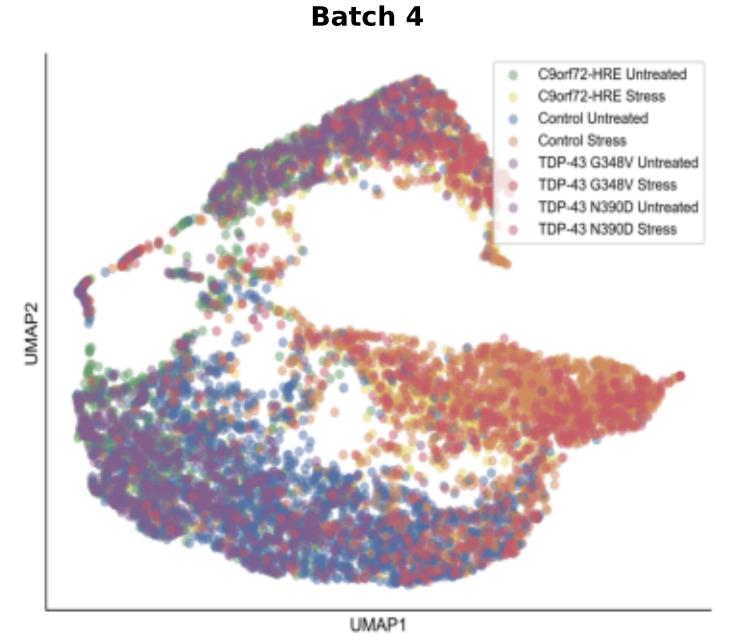
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

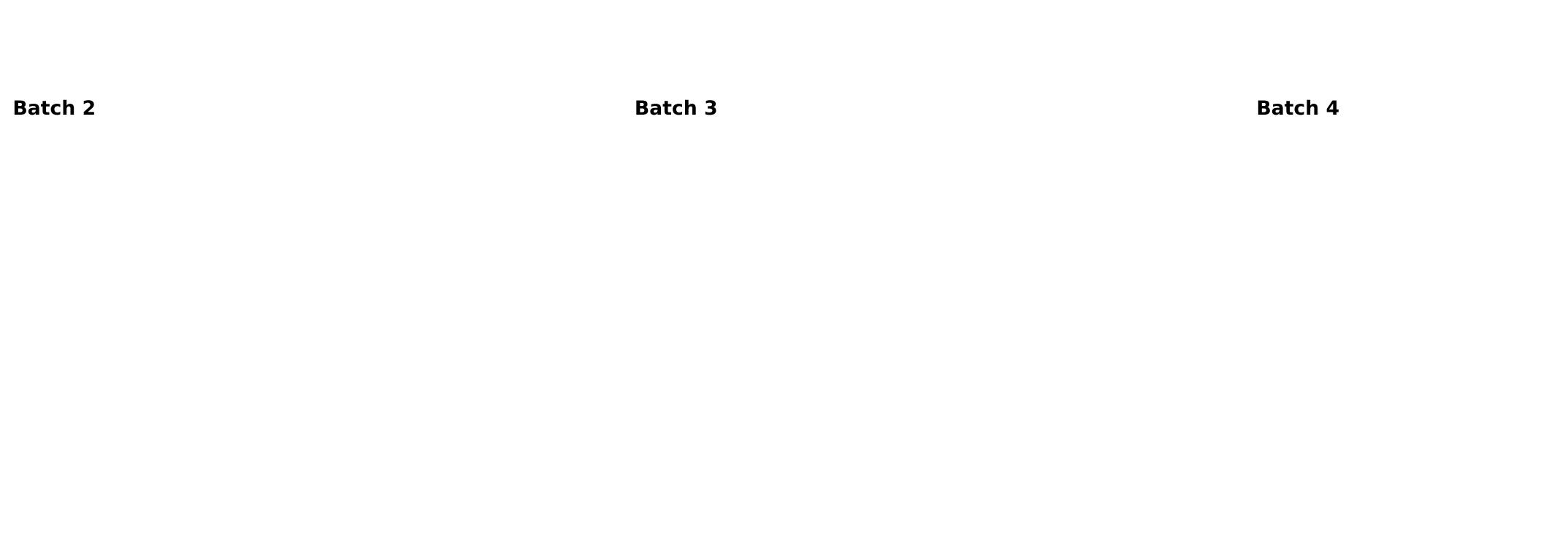


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Neuronal-activity

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

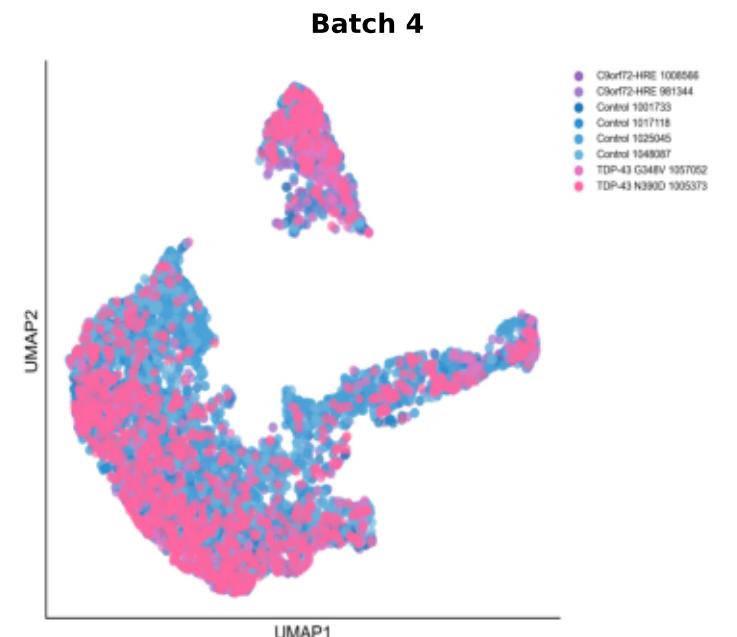
Batch 1 **Batch 2** **Batch 3** **Batch 4**



UMAP2 | Condition: all_conditions | Marker: DNA-damage-P53BP1

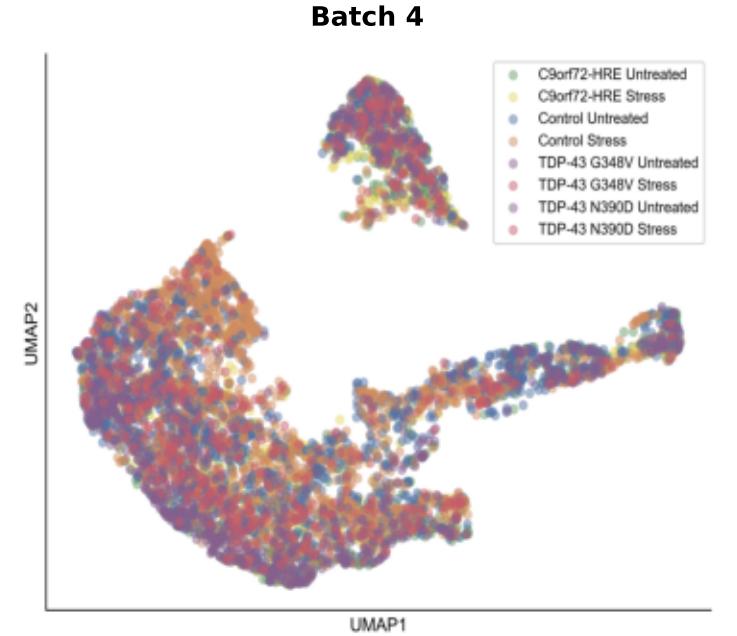
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Apoptosis

MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

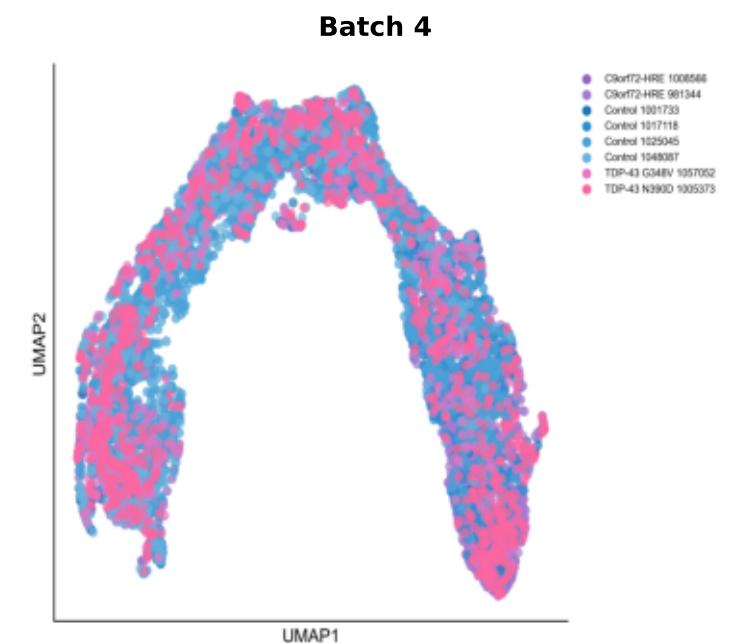


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Necroptosis-pMLKL

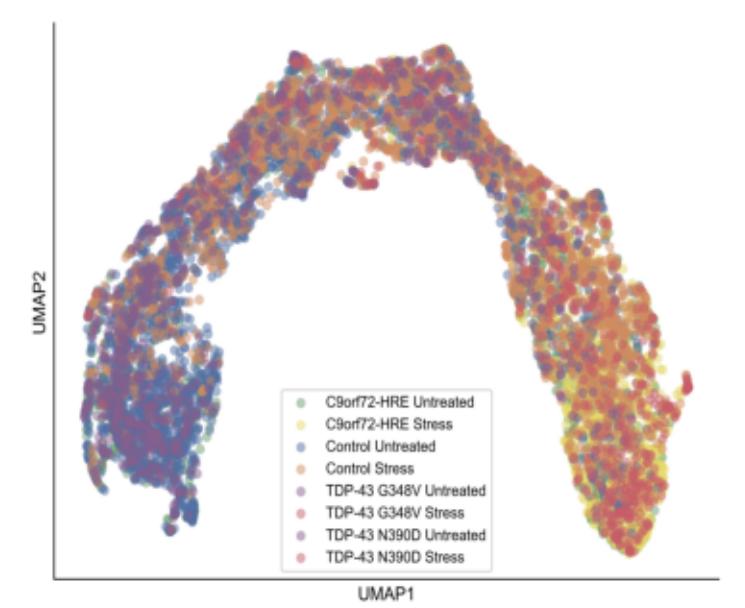
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**

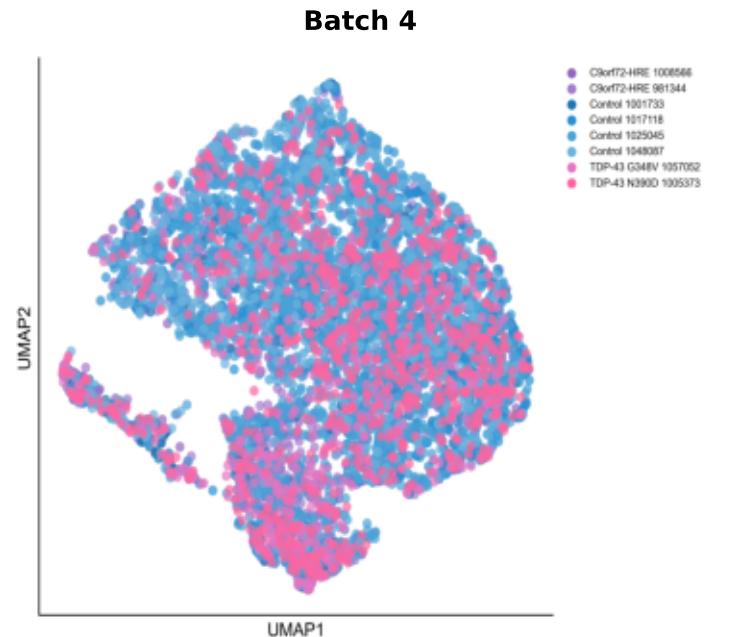


MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Protein-degradation

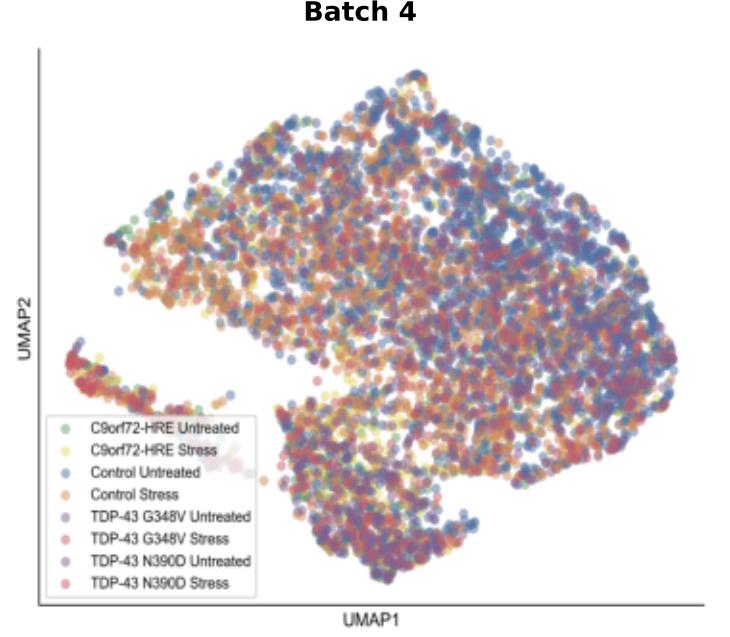
MULTIPLEX_CONDITIONS

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES

Batch 1 **Batch 2** **Batch 3** **Batch 4**



MULTIPLEX_CELL_LINES_CONDITIONS

UMAP2 | Condition: all_conditions | Marker: Senescence-signaling

MULTIPLEX_CONDITIONS

Batch 1 Batch 2 Batch 3 Batch 4



MULTIPLEX_CELL_LINES

Batch 1 Batch 2 Batch 3 Batch 4



MULTIPLEX_CELL_LINES_CONDITIONS