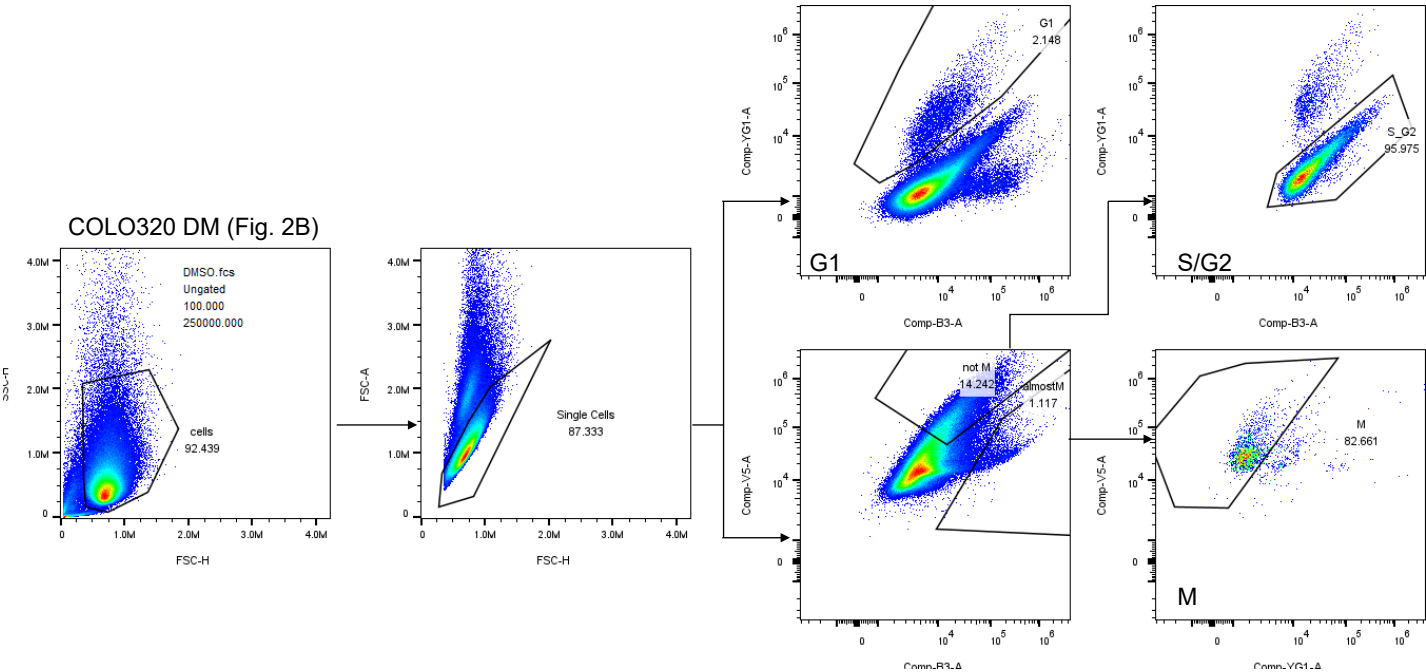

Supplementary information

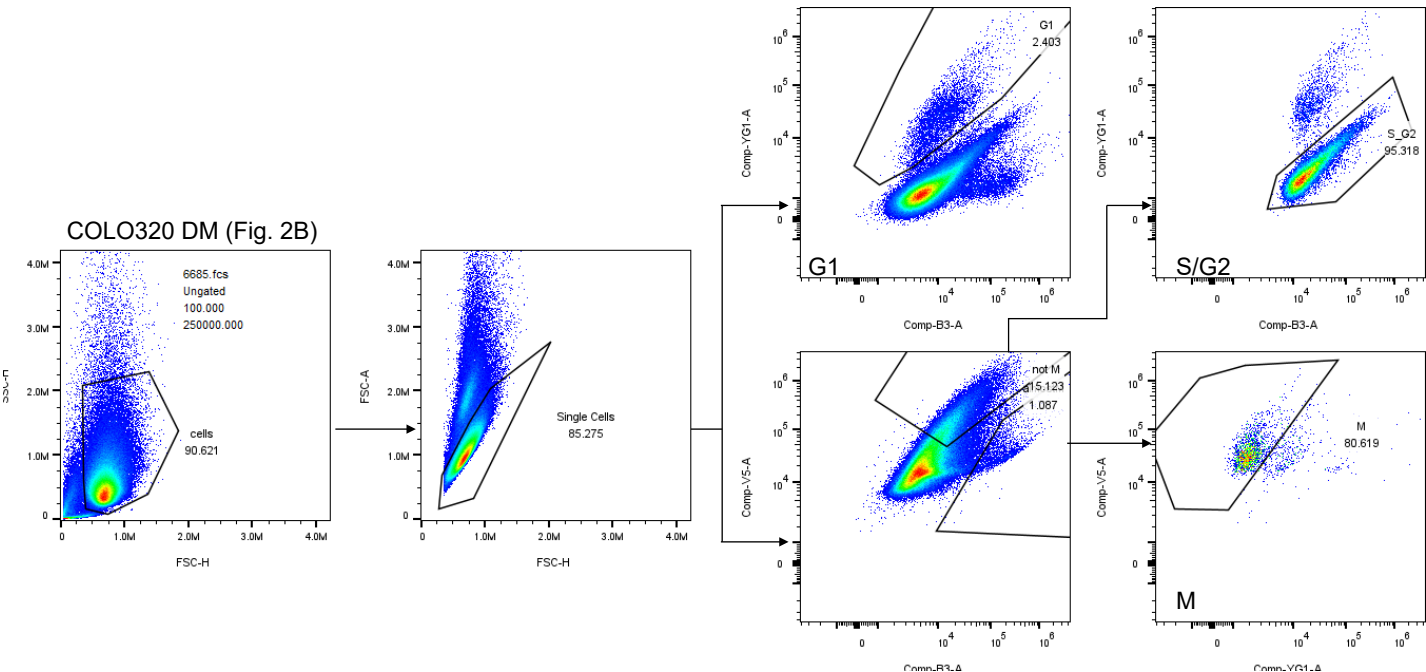
MMEJ repair of breaks at TA repeats maintains ecDNA and cancer fitness

In the format provided by the
authors and unedited

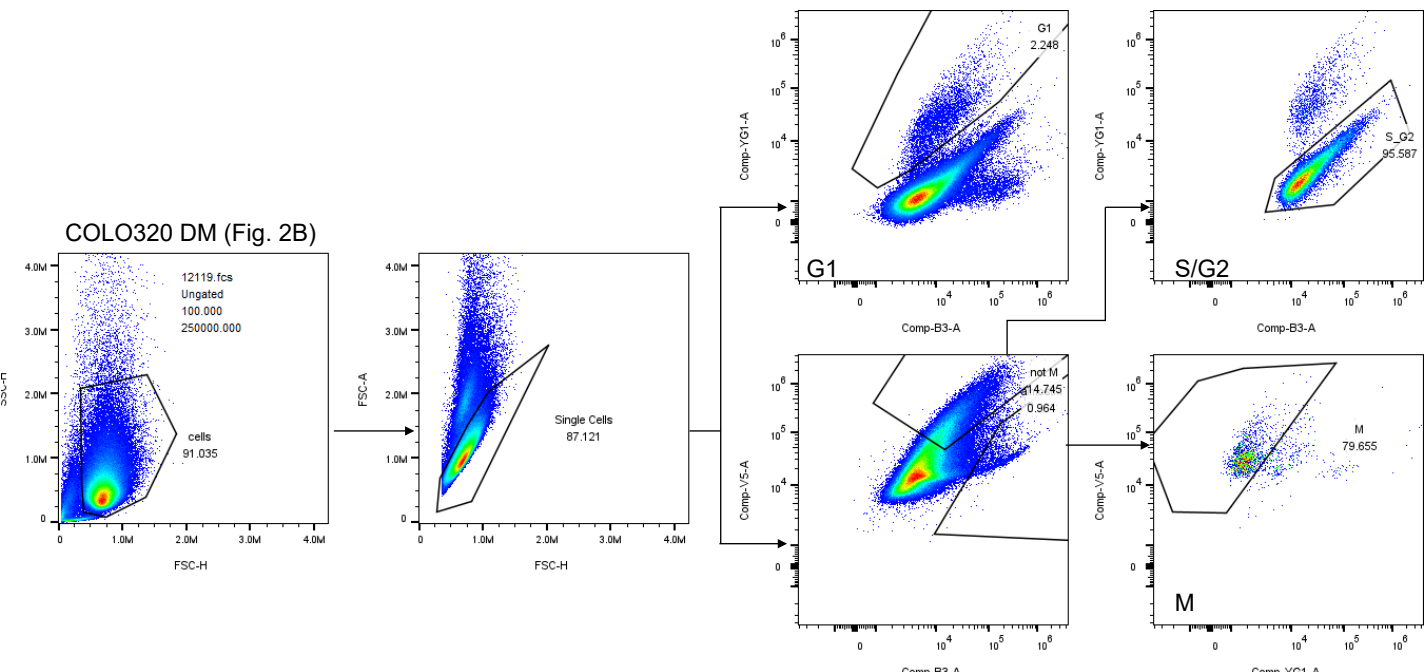
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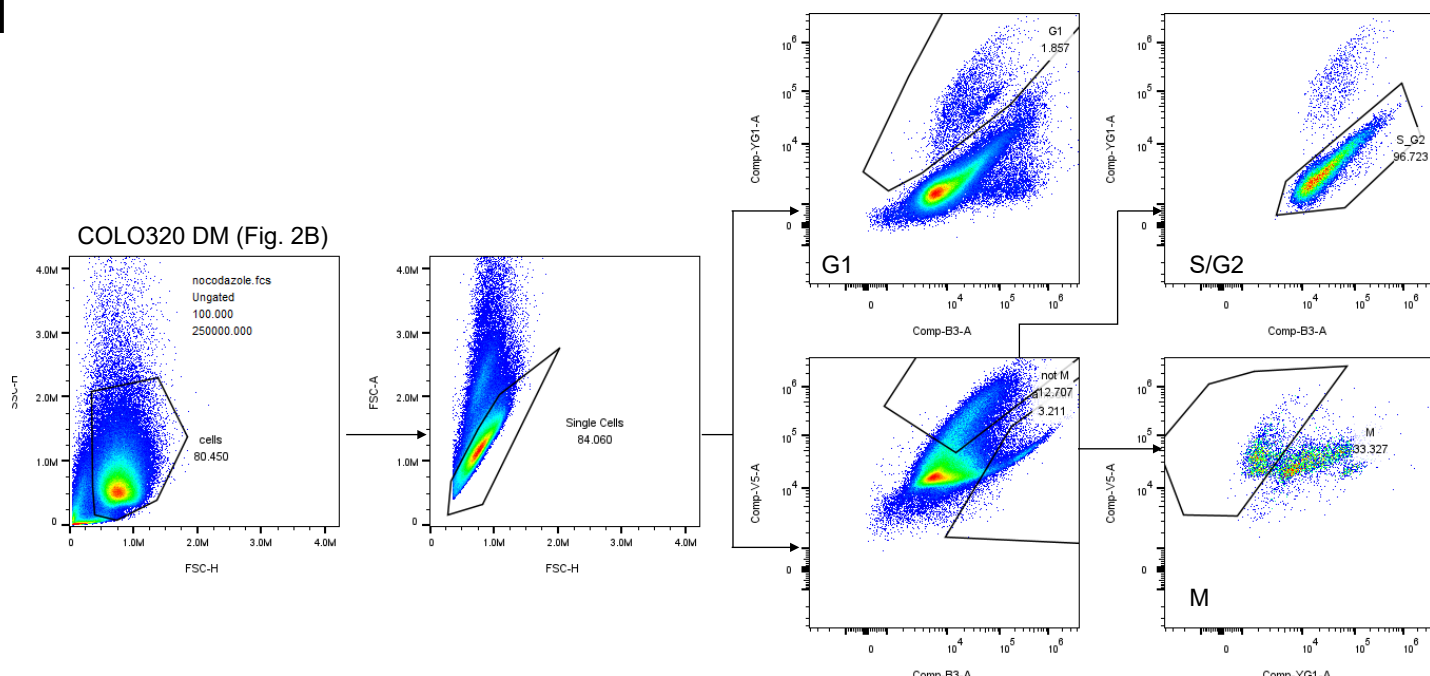
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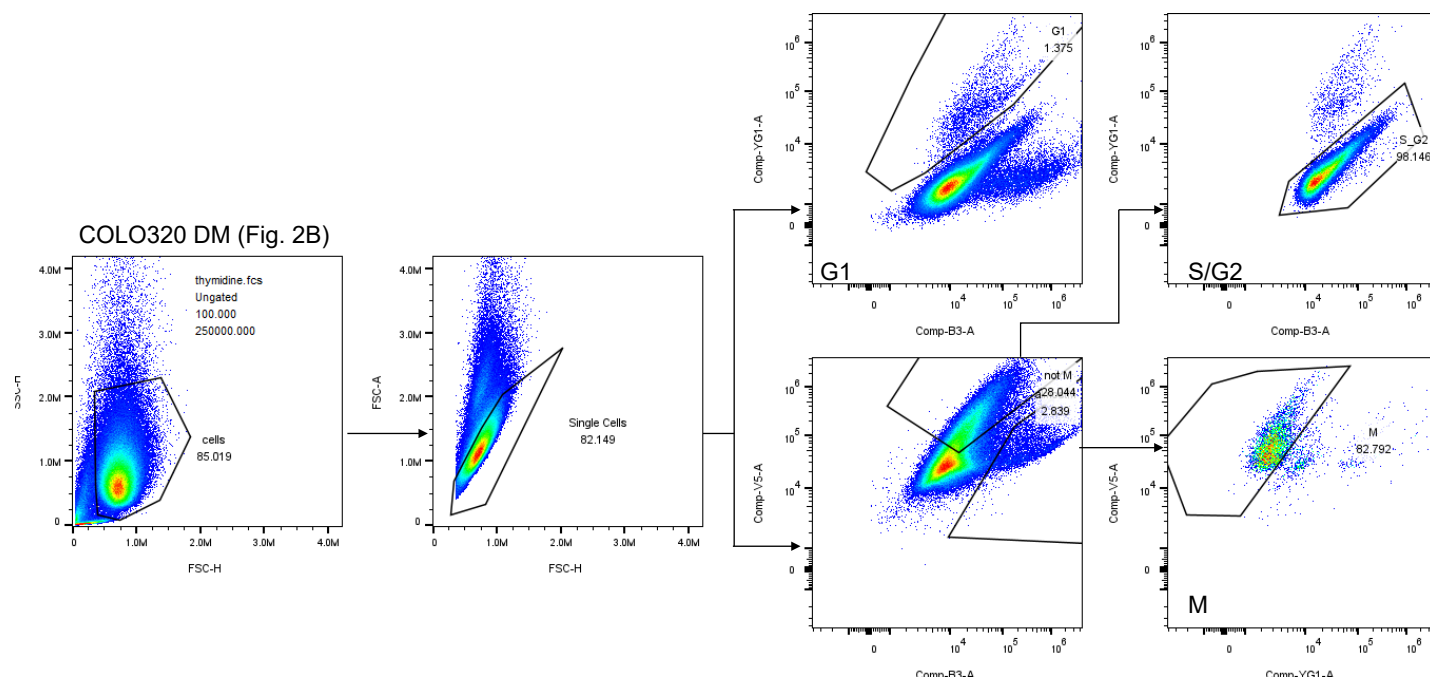
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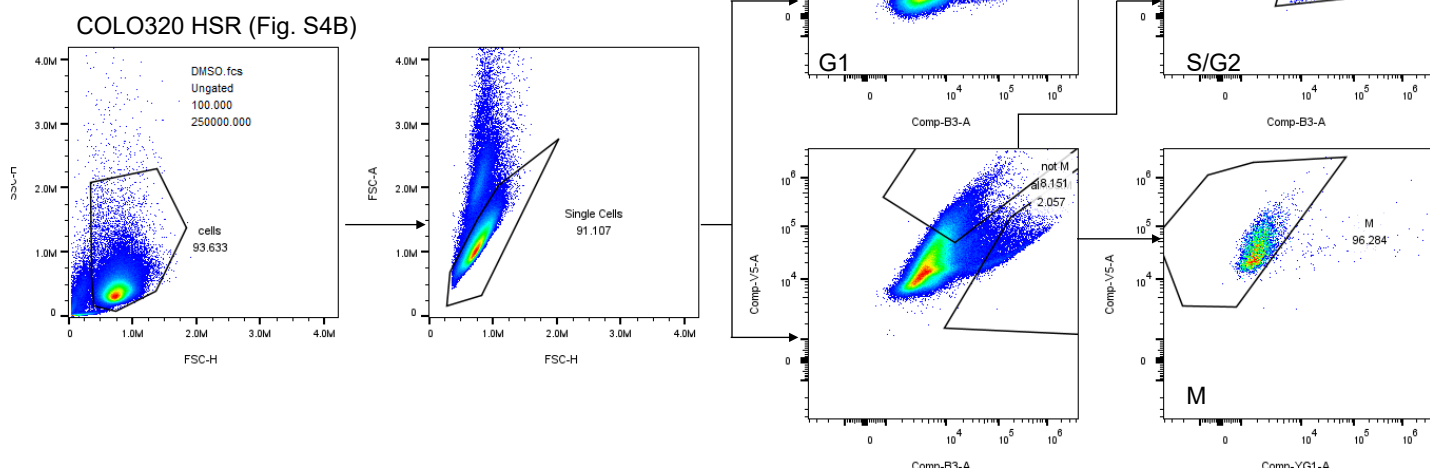
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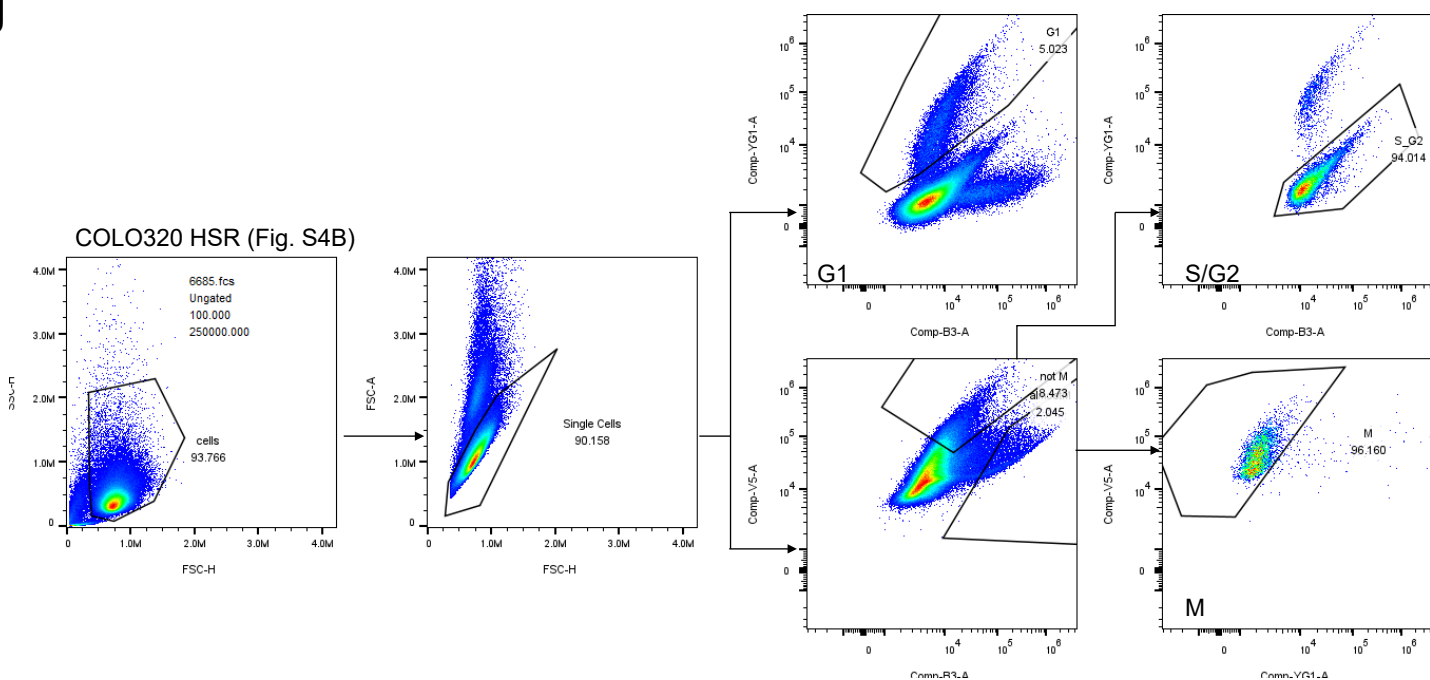
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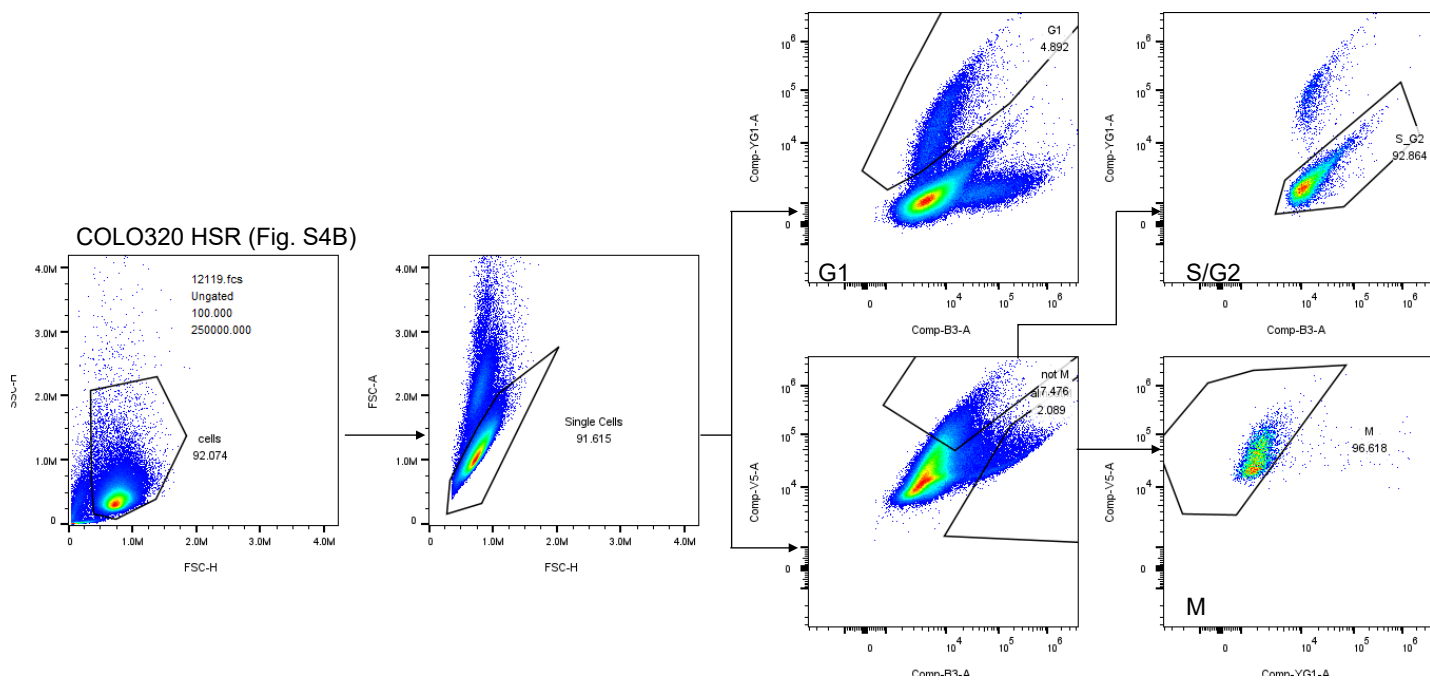
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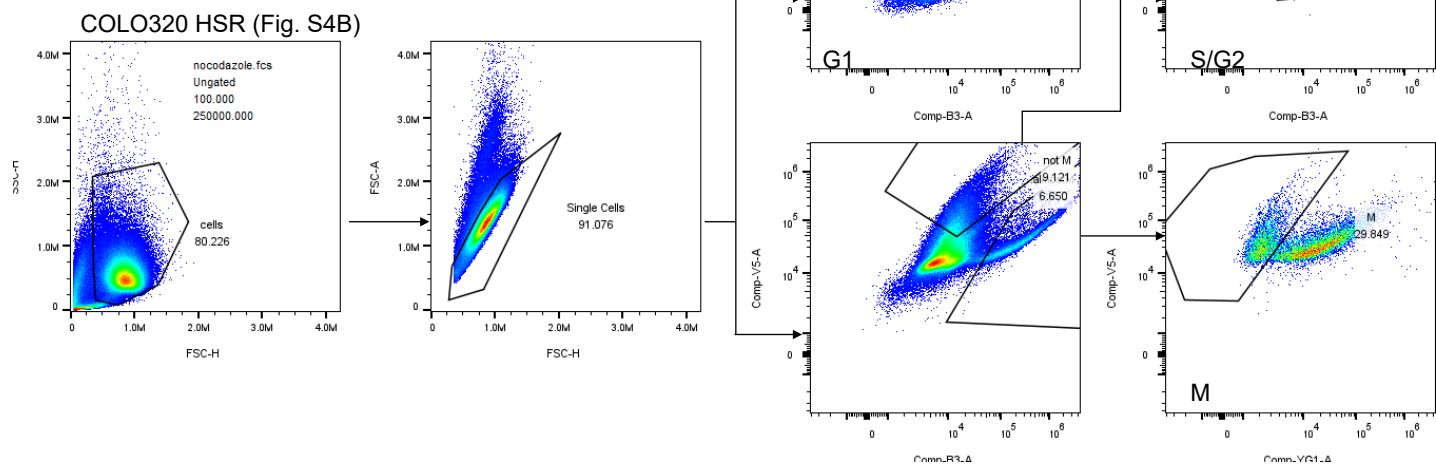
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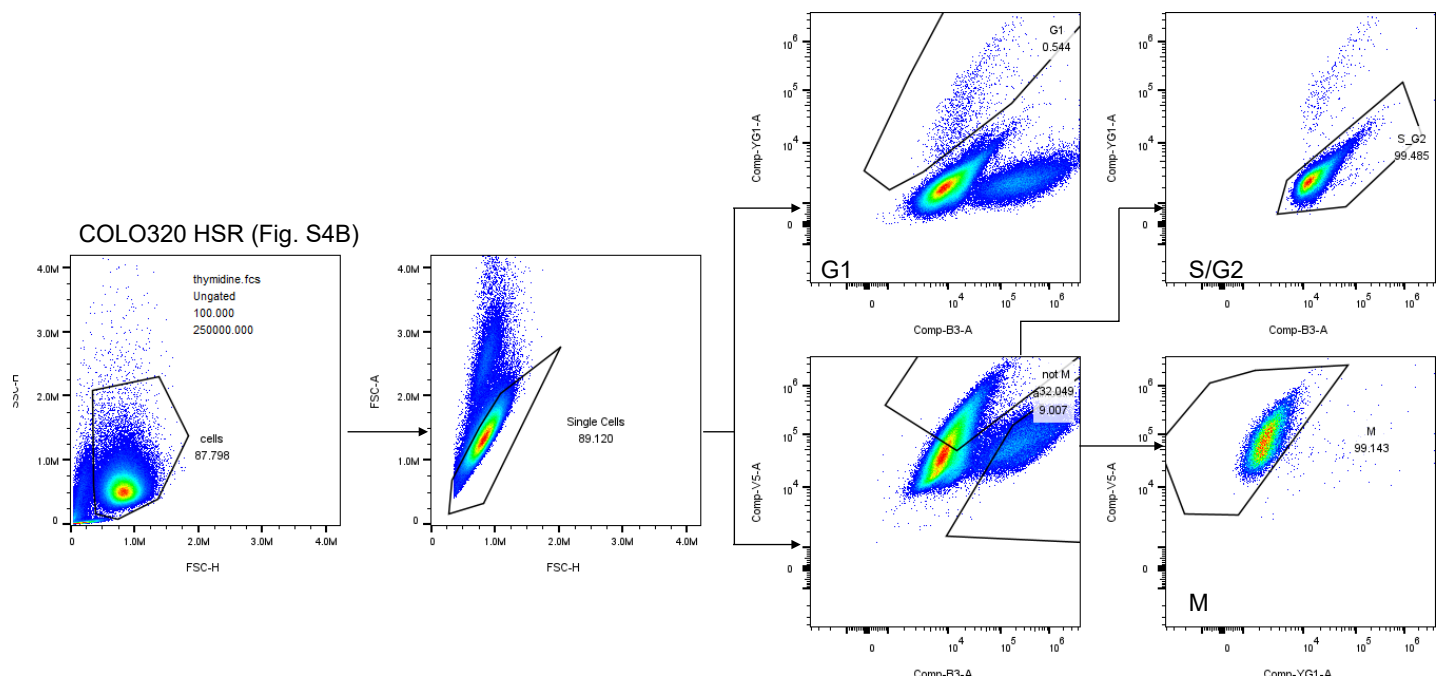
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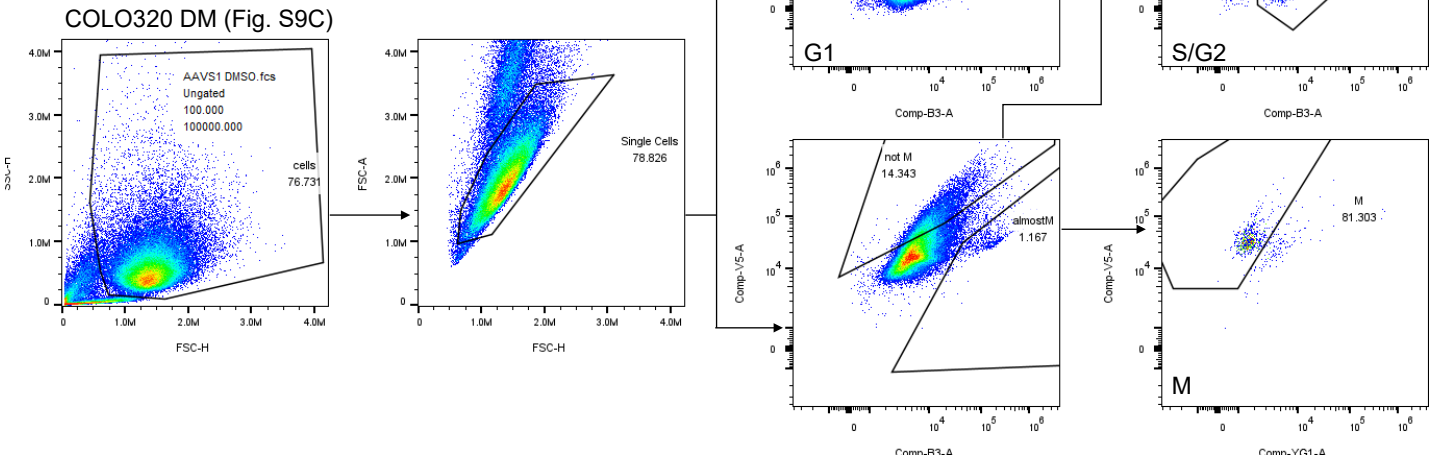
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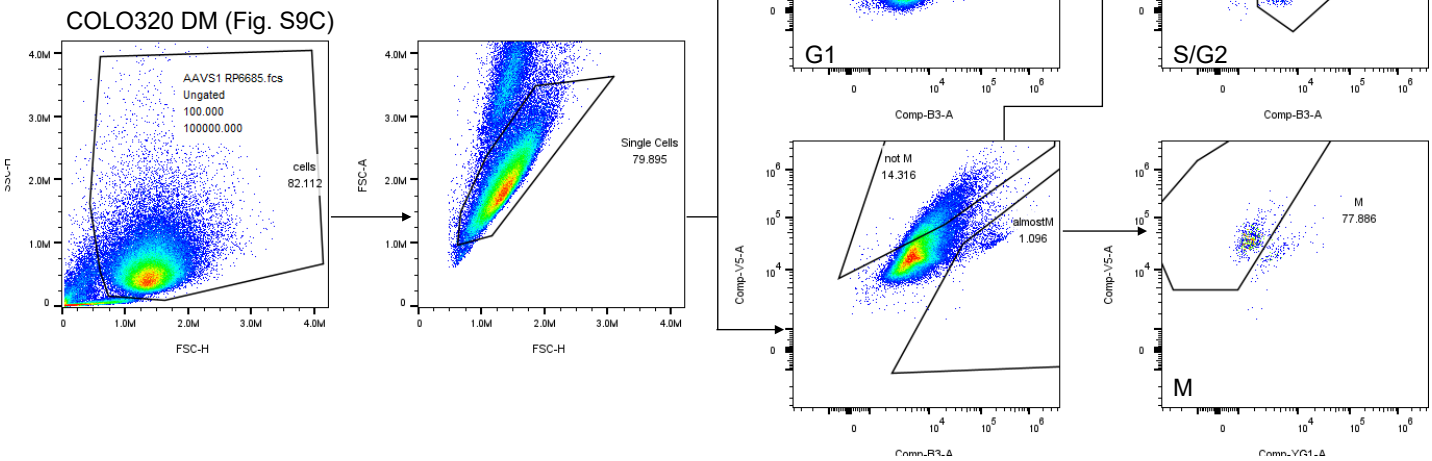
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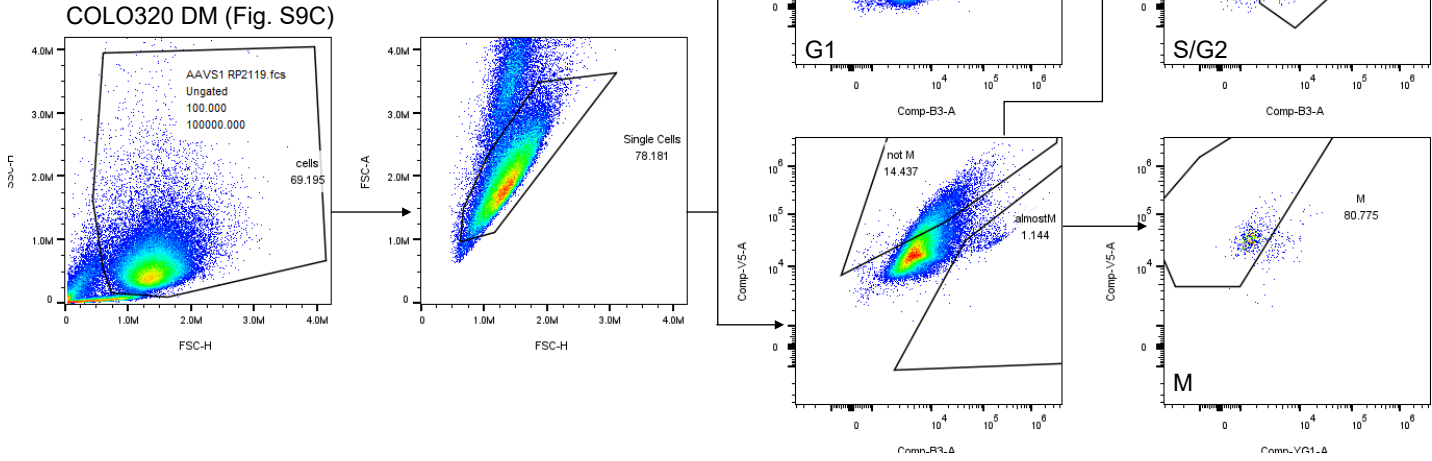
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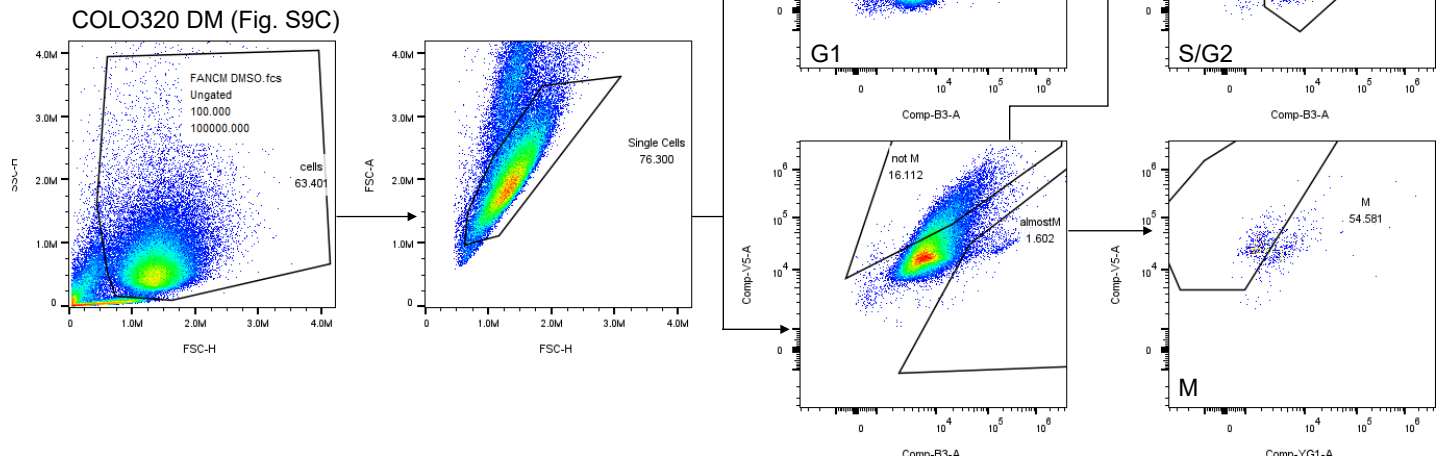
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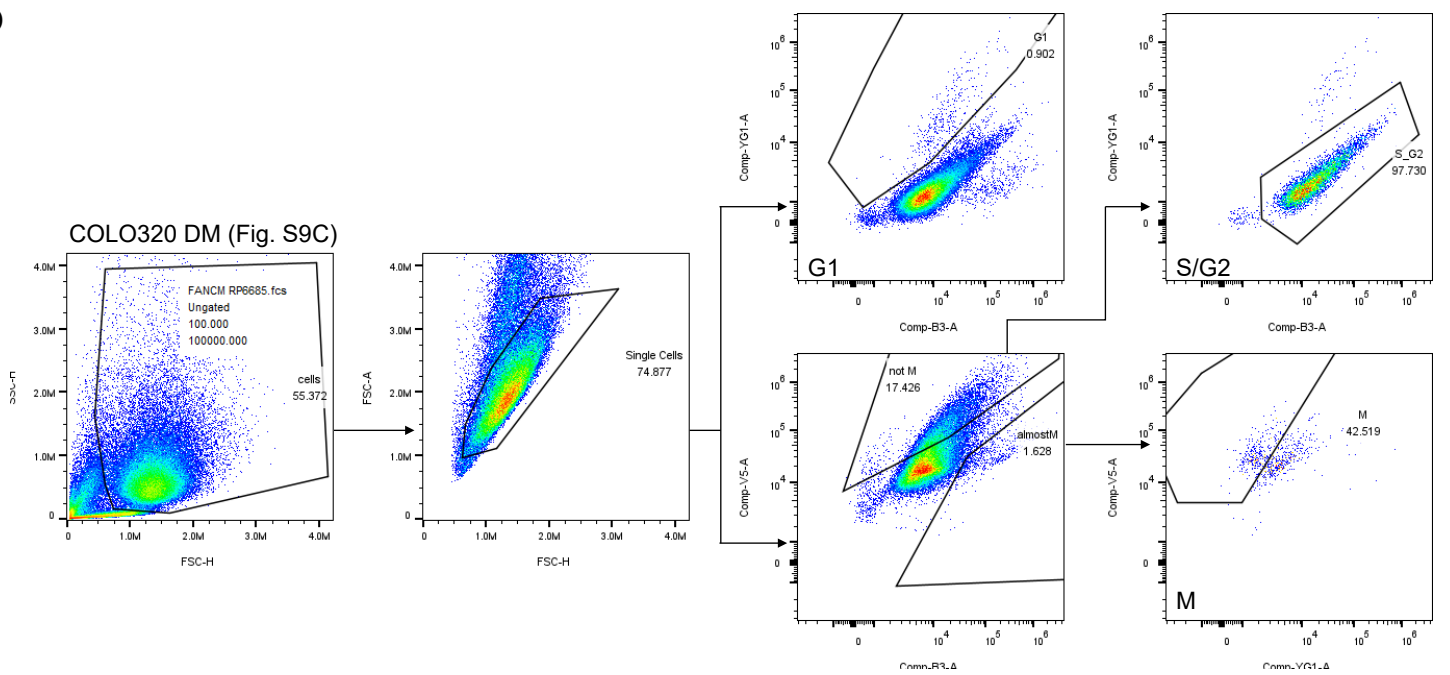
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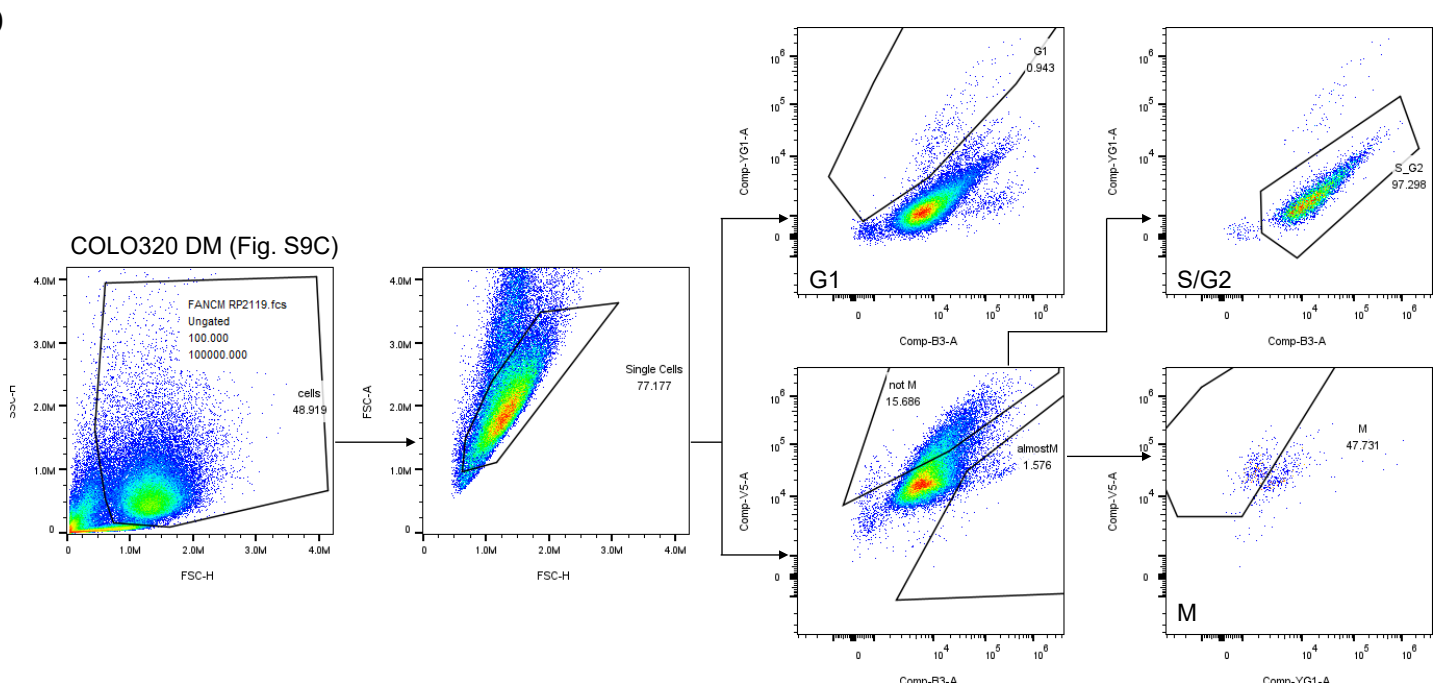
n



o



p



Supplementary Figure 1. Flow cytometry gating strategy for cell cycle analyses.

Representative gating hierarchy applied to all flow cytometry-based cell cycle experiments reported in the manuscript. For each sample, intact cells were first identified on a forward-versus side-scatter plot (FSC-H/SSC-H), and doublets were excluded on FSC-A versus FSC-H to yield single cells. Single cells were then resolved into cell cycle compartments using the upper branch, which defines the G1 and S/G2 populations, and the lower branch, which defines the mitotic (M) population. Identical gates were applied across all samples within an experiment. Numbers adjacent to each gate indicate the percentage of the parent population. Control samples treated with nocodazole (M arrest) and thymidine (G1/S arrest) were used to set the boundaries of the mitotic and G1 gates, respectively.

a–e, COLO320-DM cells, corresponding to Extended Data Fig. [2b]: DMSO vehicle (**a**), RP6685 (**b**), RP-12119 (**c**), nocodazole (**d**) and thymidine (**e**).

f–j, COLO320-HSR cells, corresponding to Extended Data Fig. [4b]: DMSO vehicle (**f**), RP6685 (**g**), RP-12119 (**h**), nocodazole (**i**) and thymidine (**j**).

k–m, COLO320-DM cells targeted at the *AAVS1* safe-harbour locus, corresponding to Extended Data Fig. [9c]: DMSO vehicle (**k**), RP6685 (**l**) and RP-2119 (**m**).

n–p, COLO320-DM *FANCM*-knockout cells, corresponding to Extended Data Fig. [9c]: DMSO vehicle (**n**), RP6685 (**o**) and RP-2119 (**p**).