

**Figure C1.** Theoretical modeling of survival curves for nonuniform distributions of  $^3\text{H}$  and  $^{125}\text{I}$  in multicellular clusters. Published experimental data for  $^3\text{H}$  (top panel) and  $^{125}\text{I}$  (bottom panel) are shown for 100% (●), 50% (▲), and 10% (■) labeling (4, 7, 8). The semi-empirical model (without bystander terms) curves are shown by the dashed lines. Solid lines are the semi-empirical model including the bystander term.

