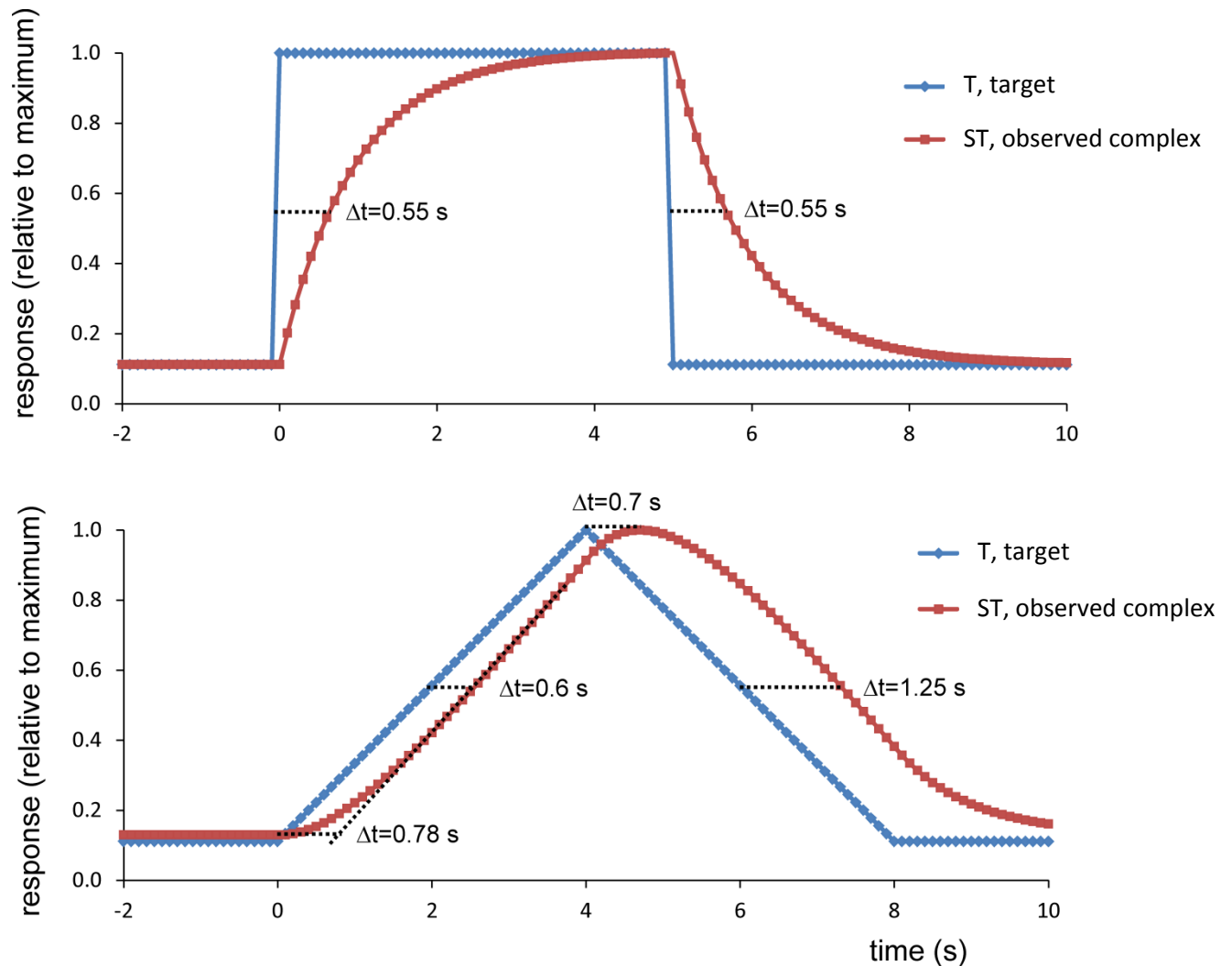# Supplemental Materials

Molecular Biology of the Cell

van Haastert *et al.*

Supplementary figure S1

Figure S1. Kinetics of binding of a GFP-sensor to a target protein. The target protein T (Ras-GTP or F-actin) increases as indicated. The sensor S binds to the target protein T, yielding the observed complex ST according to $\frac{d[ST]}{dt} = k_1[S][T] - k_{-1}[ST]$. The assumptions here are: the total target concentration is 10,000 molecules per cell (30 nM), the total concentration of sensor is 100,000 molecules per cell (300 nM), $k_1 = 10^5$ $M^{-1}s^{-1}$ and $k_{-1} = 1$ s^{-1}. The delay time Δt between the increase of target (T) and increase of the sensor bound to the target (S) are indicated. Similar calculations were performed with different concentrations of target, sensor and kinetic constants, yielding estimates for Δt between 0.5 and 1.5 s; the best estimate is 0.75 s.