# A simple paper test could offer early cancer diagnosis

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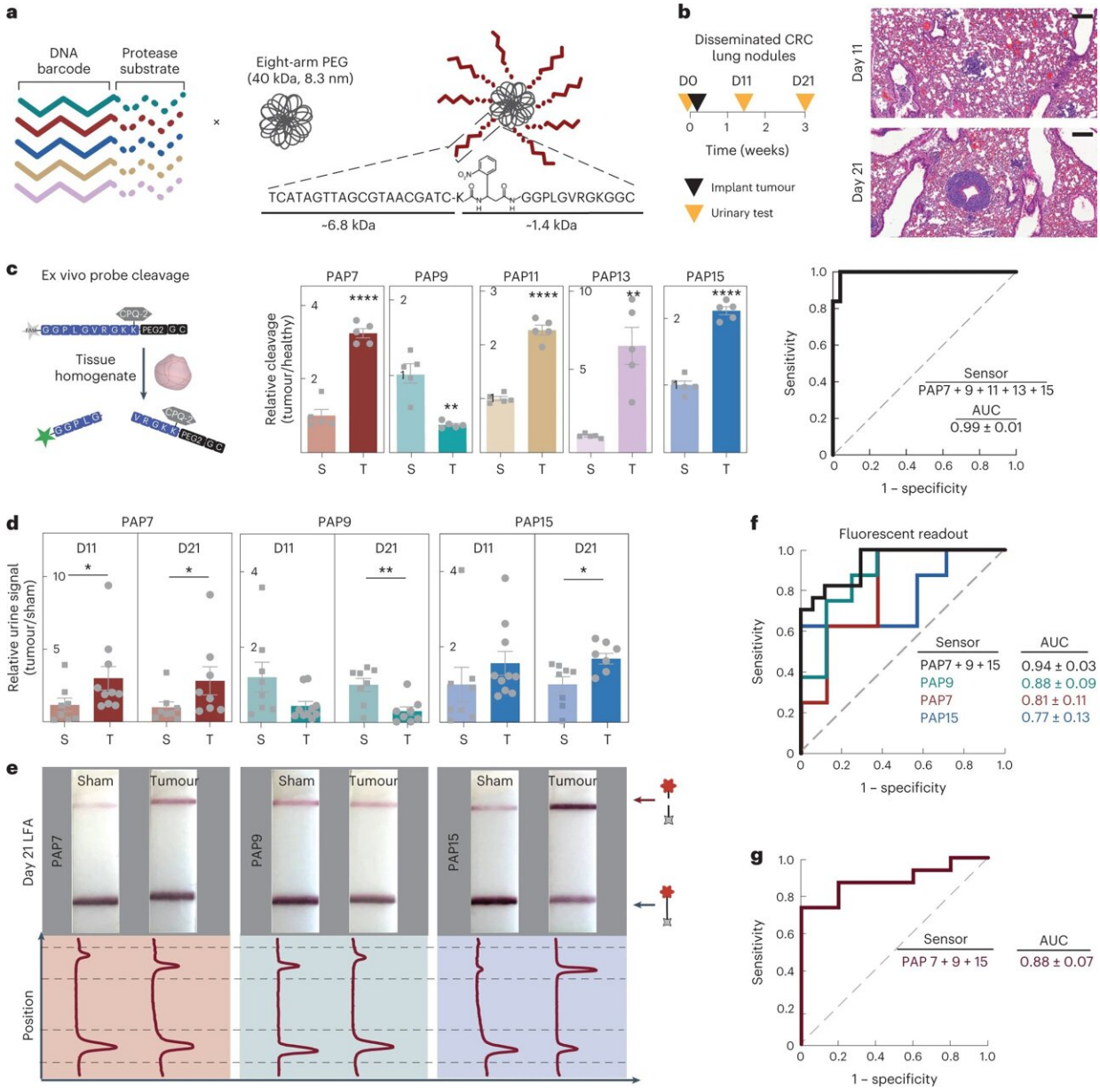

Multiplexed DNA-encoded synthetic urine biomarkers for portable monitoring of invasive colorectal cancer. **a**, Multiplexed DNA-SUBs are comprised of a polymeric nanocarrier (eight-arm PEG) functionalized with protease-activated peptides barcoded with oligonucleotides. **b**, Left: Timeline of longitudinal tumor monitoring with DNA-SUB. D, day. Right: histological lung staining of BALB/c mice bearing CRC lung tumors at 11 days (upper) and 21 days (lower) after tumor inoculation. Scale bar, 200 μm. **c**, Left: Schematic of the fluorogenic assay to identify peptide substrates specifically cleaved by lung tissue homogenates collected 21 days after tumor inoculation. Middle: Peptide cleavage by CRC-bearing and healthy lung tissue homogenates were monitored and cleavage rates normalized to healthy tissue are shown in bar graphs ($n = 5$ mice per group; mean ± s.e.m.; unpaired two-tailed *t*-test with Welch's correction, ****$P$