Rapid fluorescence detection of hypoxic microenvironment by nitro-benzyl conjugated chitosan nanoparticles encapsulating hydrophobic fluorophores

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Scheme S1  Synthetic route of amphiphilic chitosan polymer (ACP).
Fig. S1  $^1$H NMR spectrum of water-soluble chitosan in D$_2$O.
Fig. S2  $^1$H NMR spectrum of nitro-benzyl substrate (NBS) in CDCl$_3$. 
Fig. S3  Fluorescence intensity of HRCN-R6G with micelle concentration
Fig.S4  UV absorption spectra of PBS, NADH, NTR, and nitrobenzyl compound.
Fig. S5  (A) Photographs of HRCN-R6G without (left) and with (right) NTR/NADH.

(B) Size distribution of HRCN-R6G after treating with NTR/NADH.
Fig. S6  Mean FI after incubation under normoxia and hypoxia (10% O$_2$ and 1% O$_2$) condition for 30 mins. T tests were used to determine the significance between normoxia & hypoxia groups.