

Online Table 1 | Imaging hypoxia

Imaging technique (<i>in vivo</i>)	What it shows	References
Magnetic resonance imaging with integrin ligands	Activated blood-vessel endothelial cells	1
Magnetic resonance imaging	Contrast change as measure of blood flow	2
Positron emission tomography (PET) scanning with ¹⁸ F-labelled hypoxia-activated drugs	Hypoxic areas	3,4
Radio-labelled hypoxia-activated bioreductive drugs	Hypoxic areas	5
PET-labelled carbon monoxide and water	Blood flow	
Scanning with antibody to vascular endothelial growth factor (VEGF)	VEGF-producing cells	
Annexin V ^{99m} Tc (technetium) Direct measurement	Binds apoptotic cells	6
Oxygen electrode	O ₂ concentration	
Luminescent fibre optics In biopsies	O ₂ concentration	7
Pimonidazole or EF5 injection before biopsy and immunohistochemistry of tumours	Staining of hypoxic cells	8,9
Staining for hypoxia-induced genes	CA9, GLUT1, HIF-1 expression	10
Assays for DNA strand breaks (comets) after radiation treatment	Hypoxic areas	11
Measurement of tumour vascularity	Inter-capillary distance	12
Plasma assays	Secreted hypoxia-regulated proteins	13

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