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Non invasive individual monitoring of tumor response to anti-cancer treatments: Early detection of radio- and chemo-induced cell death by magnetic resonance imaging.

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Abbreviation list

5-FU: 5-fluorouracil

ADC: apparent diffusion coefficient

$\alpha_v\beta_3$ = alpha(v)beta(3): vitronectin receptor

AnxV = anxA5: annexin V

ATP: adenosine triphosphate

CA: contrast agent

Cho: choline

ChoK: choline kinase

CIE: chemotherapy-induced enteropathy

CP: cyclophosphamide

Cr: creatine

CT: computed tomography

CTL: control

DAPI: 4,6-diamidino-2-phenylindole

DCE: dynamic contrast-enhanced

DDC: didansyl cystine

DEVD: Asp-Glu-Val-Asp peptide

DNA: deoxyribonucleic acid

DWI=DW-MRI: diffusion-weighted imaging

ECG: electrocardiogram

E-selectin: endothelial selectin

ELISA: enzyme-linked immunosorbent assay

EPR: electron paramagnetic resonance

ET: etoposide

FCA: Freund's complete adjuvant

FCH: fluoro(methyl)choline

FDG: fluoro-2-deoxy-D-glucose

Fe: iron

FITC: fluorescein isothiocyanate

FLASH: fast low angle shot

FLICA: fluorochrome-labeled inhibitors of caspases

FLT: 3'-deoxy-3'-F-fluorothymidine

FOV: field of view

FsaII: fibrosarcoma II

Gd: gadolinium

GPC: glycerophosphocholine

GPE: glycerophosphoethanolamine

GIST: gastrointestinal stromal tumor

GLUT: glucose transporter

H&E: hematoxylin and eosin

HER2/neu = ErbB-2: human epidermal growth factor receptor 2

HIF: hypoxia-inducible factor

HUVEC: human umbilical vein endothelial cell

HYNIC: hydrazino nicotinamide

IC_{50}: half maximal inhibitory concentration

ICAM: intercellular adhesion molecule

IL: interleukin

i.m.: intramuscularly

i.v.: intravenously

L-selectin: leukocyte selectin

Lac: lactate

LD_{50}: lethal dose that kills 50% of animals

LPS: lipopolysaccharide

MatLab: Matrix Laboratory

MET: methyl-methionine

ML-9: butyl-2-methyl-malonic acid

Mn: manganese

MRI: magnetic resonance imaging

MRS: magnetic resonance spectroscopy

M_S: specific magnetization
MW: molecular weight
NACA: necrosis-avid contrast agent
NMR: nuclear magnetic resonance
NMRD: nuclear magnetic resonance dispersion
NTP: nucleotide triphosphate
OMT: O-methyl-L-tyrosine
P-selectin: platelet selectin
PARP: poly-ADP-ribose polymerase
PC: phosphocholine
PCr: phosphocreatine
PCS: photon correlation spectroscopy
PDE: phosphodiester
PE: phosphoethanolamine
PEG: polyethylene glycol
PET: positron emission tomography
Pi: inorganic phosphate
PME: phosphomonoester
ppm: parts per million
PRESS: point-resolved spectroscopy
PS: phosphatidylserine
PSA: prostate specific antigen
PtdC: phosphatidylcholine
PtdE: phosphatidylethanolamine
r: crystal radius
R_1: longitudinal relaxation rate
r_1: longitudinal relaxivity
R_2: transversal relaxation rate
r_2: transversal relaxivity
RARE: rapid acquisition with relaxation enhancement
RECIST: Response Evaluation Criteria In Solid Tumors
RES: reticulo-endothelial system
RGD: Arg-Gly-Asp peptide
ROI: region of interest
SEM = SE: standard error (of the mean)
SI: signal intensity
sLe^x: sialyl Lewis X
SM: sphingomyelin
SPECT: single photon emission computed tomography
SPIO: superparamagnetic iron oxide particle
T_1: longitudinal relaxation time
T_2: transversal relaxation time
tCho: total choline
TE: echo time
TK_1: thymidine kinase 1
TKI: tyrosine kinase inhibitor
TLT: transplantable liver tumor
TNFα: tumor necrosis factor α
TR: repetition time
TUNEL: terminal deoxynucleotidyl transferase dUTP nick end labeling
MUC-1: mucin-1 antigen
USPIO: ultrasmall iron oxide particle
VEGF: vascular endothelial growth factor
VSMC: vascular smooth muscle cell
WHO: World Health Organisation