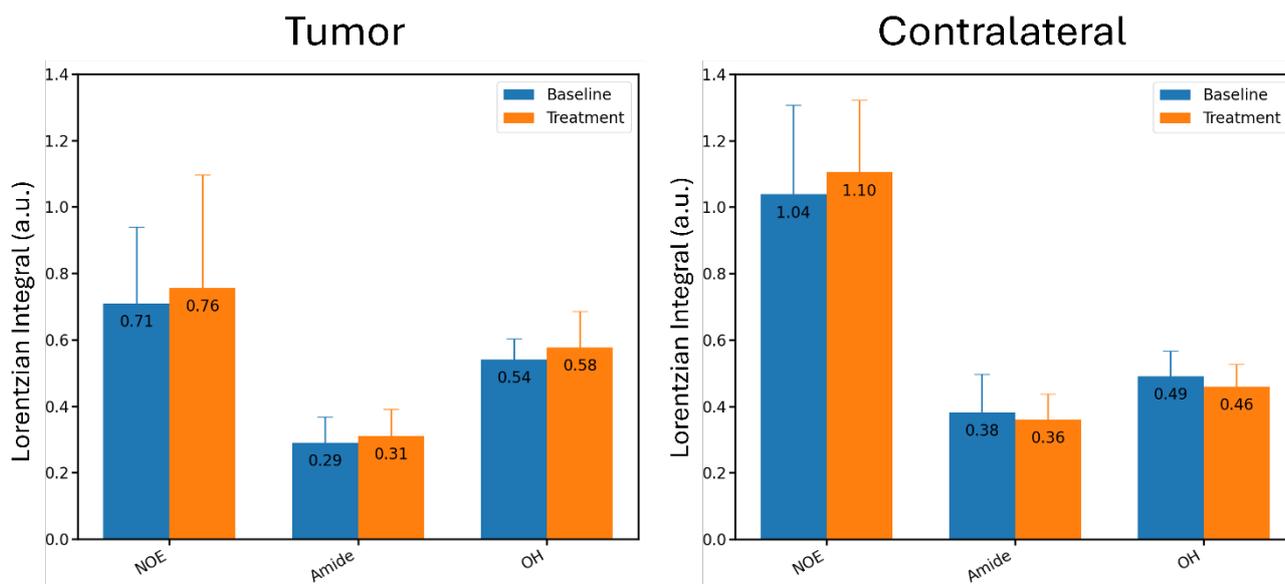


Supplementary Information

Supplementary Table S1. Initial parameters and boundaries used for the multi pool Lorentzian Fitting of the Z spectrum [23].

Solute	Parameter	Initial	Lower Boundary	Upper boundary
Water	Amplitude (a.u.)	0.9	0.02	1
	Line Width (ppm)	1.4	0.3	10
	Frequency offset (ppm)	0	-0.1	0.1
MT	Amplitude (a.u.)	0.1	0	0.15
	Line Width (ppm)	10	10	100
	Frequency offset (ppm)	-1	-4	-1
Amide	Amplitude (a.u.)	0.2	0.05	0.35
	Line Width (ppm)	0.5	0.4	5
	Frequency offset (ppm)	3.5	3	4
rNOE	Amplitude (a.u.)	0.2	0	0.35
	Line Width (ppm)	3	1	5
	Frequency offset (ppm)	-3.5	-4.5	-2
OH	Amplitude (a.u.)	0.1	0	0.35
	Line Width (ppm)	1	0.5	4
	Frequency offset (ppm)	1.2	1	2.5



Supplementary Figure S1. Lorentzian fitted integral areas for the rNOE, amide, and OH proton pools for (a) the tumor ROI, and (b) the contralateral ROI. The blue bars represent baseline values, and the orange bars represent values obtained 16 minutes following GlcN treatment. Each bar displays the mean integral (which is also noted in black) with the standard deviation shown as an error bar.