**Supplemental 1. List of all Abbreviations**

MRI – Magnetic Resonance Imaging; Magnetic field strength is measured in Tesla (T)

RF – Radiofrequency; type of electromagnetic radiation

TE – Echo Time; time waited after a pulse to receive signal for image formation

TR – Repetition Time; time waited between RF pulses/excitations

T1 – constant of time (dependent on tissue type) required for longitudinal magnetization to restore after RF pulse

T2 – constant of time (dependent on tissue type) required for transverse magnetization to decay after the RF pulse is sent into the tissue

UHF – Ultrahigh field (strength)

SNR – Signal-to-noise Ratio; how much signal is picked up in proportion to excess distracting energy (noise)

CNR – Contrast-to-noise Ratio; how distinguishable two different structures with known different signals are from each other

SE – Spin Echo; MRI imaging sequence that utilizes 180-degree pulses to refocus dephasing protons

DWI – Diffusion Weight Imaging; MRI imaging technique used to quantify/monitor the movement of water molecules in tissues

PGSE – Pulse Gradient Spin Echo; MRI imaging technique using spin-echo and smaller gradients to entirely reverse the protons’ spin and image for unalignment

OGSE – Oscillating Gradient Spin Echo; MRI imaging technique that advances the concepts of PGSE to add more detail in a third dimension by adding short diffusion weighting periods

ASL – Arterial Spin Labelling; fMRI imaging technique used to detect blood flow in tissues by tagging water molecules in the blood

BOLD – Blood Oxygen Level Dependent; fMRI imaging technique used to detect blood flow in tissues based on oxygen levels

FID – Free Induction Decay; natural loss of energy and dephasing of protons as they spin after alignment

DG – Diffusion Sensitizing Gradient; a magnetic gradient field, unequal at all points thus creating diffusion

ADC – Apparent Diffusion Coefficient; map of values of normal T2 ranges for specific areas of the brain

CBF – Cerebral Blood Flow; blood flow pathways in the brain

fMRI – Functional Magnetic Resonance Imaging; MRI focused on blood flow, to show the activity of brain areas

AI – Artificial Intelligence; overarching term representing technology that adapts and learns from the environment, mirroring human neural networks

ML – Machine Learning; technology that adapts and learns from the environment, given a test dataset to learn from

DL – Deep Learning; technology that adapts and learns from the environment, given a learning mechanism/process

MRS – Magnetic Resonance Spectroscopy; a non-invasive technique that utilizes radiofrequency signals to identify atomic nuclei

NAC – Neoadjuvant Chemotherapy; administration of chemotherapeutic medications/drugs designed as preliminary treatment (typically to shrink the tumor) prior to localized treatment (such as surgery/radiation)