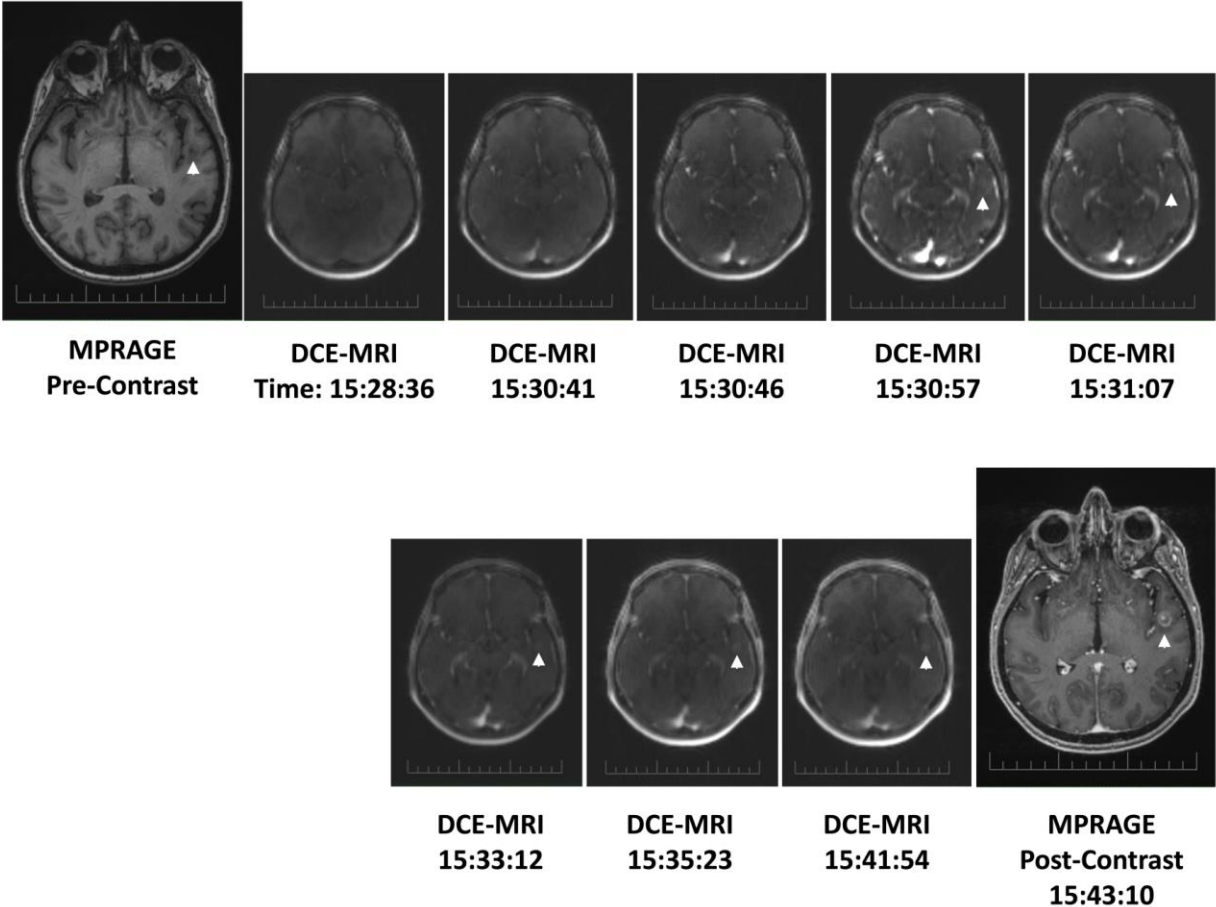


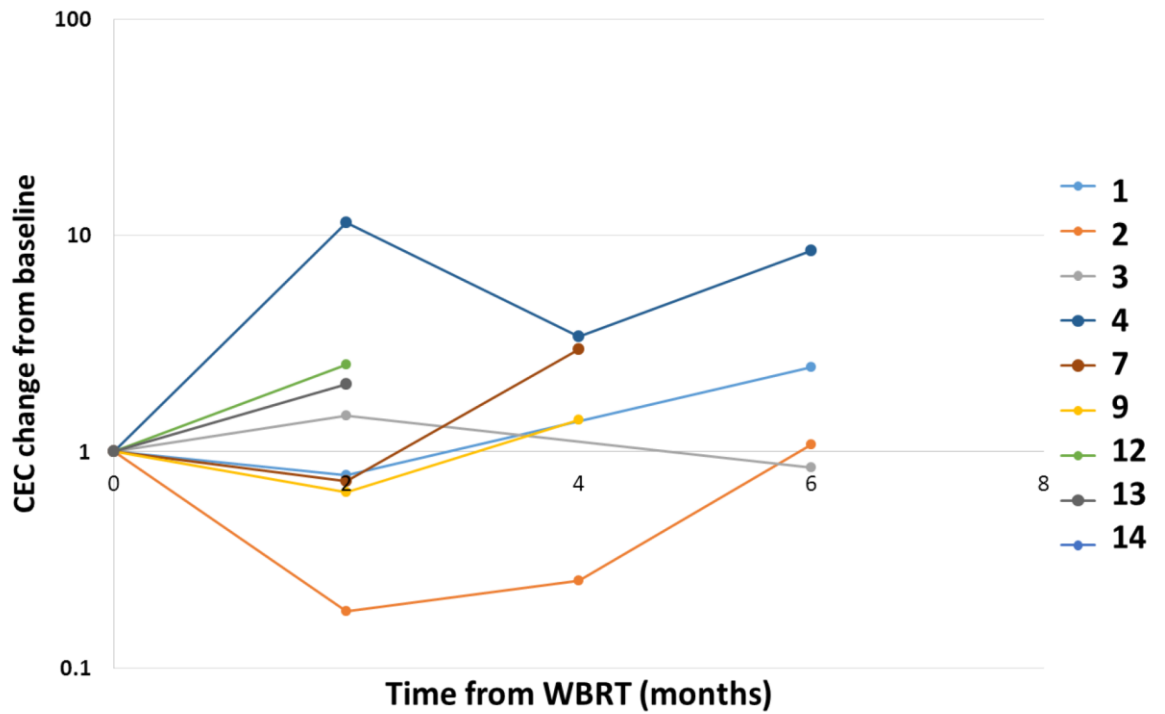
A pilot study using dynamic contrast enhanced-MRI as a response biomarker of the radioprotective effect of memantine in patients receiving whole brain radiotherapy

Supplementary Material



Supplementary Figure 1: Example of dynamic contrast enhanced-MRI images.

Change in circulating endothelial cells after brain radiotherapy

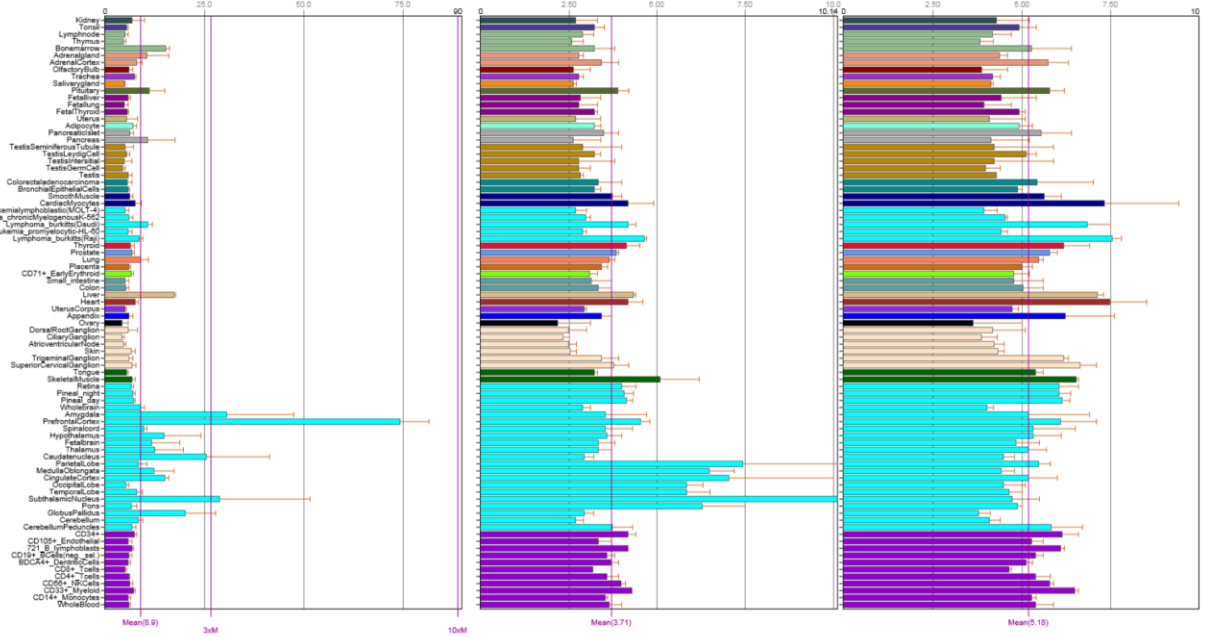


Supplementary Figure 2: Change in circulating endothelial cells (CEC) following whole brain radiotherapy (WBRT). Data was normalized to the baseline level of CEC prior to WBRT.

GRIN1

GRIN2A

GRIN2B



Supplementary Figure 3: Gene expressions of 3 of the NMDA receptor subunits (GRIN1, GRIN2A and GRIN2B) in different human tissues. Data derived from BioGPS Human U133 microarrayGeneAtlas data.

GRIN1

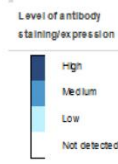
TISSUE SUBCELL CELL LINE CANCER

ANTIBODY STAINING OVERVIEW ?

Antibodies in assay CAB006831

Tissue presentation order Organ Cell type Alphabetical

Tissue	Antibody staining	Tissue	Antibody staining
Nervous system cells			
Soft tissue 1	Peripheral nerve	Soft tissue 1	Keratinocytes
Soft tissue 2	Peripheral nerve	Skin 2	Epidermal cells
Cerebral cortex	Neuronal cells	Vagina	Squamous epithelial cells
Hippocampus	Neuronal cells	Cervix, uterine	Squamous epithelial cells
Lateral ventricle	Neuronal cells	Oral mucosa	Squamous epithelial cells
Cerebellum	Purkinje cells	Tonsil	Squamous epithelial cells
Cerebellum	Cells in granular layer	Esophagus	Squamous epithelial cells
Cerebellum	Cells in molecular layer	Endocrine cells	
Colon	Peripheral nerve/ganglion	Pancreas	Islets of Langerhans
Cerebral cortex	Glial cells	Thyroid gland	Glandular cells
Hippocampus	Glial cells	Parathyroid gland	Glandular cells
Lateral ventricle	Glial cells	Adrenal gland	Glandular cells
Cerebral cortex	Neuropil	Testis	Leydig cells
Hematopoietic cells			
Skin 1	Langerhans	Mesenchymal cells	
Bone marrow	Hematopoietic cells	Soft tissue 1	Adipocytes
Lymph node	Germinal center cells	Soft tissue 1	Chondrocytes
Tonsil	Germinal center cells	Soft tissue 1	Fibroblasts
Lymph node	Non-germinal center cells	Soft tissue 2	Fibroblasts
Tonsil	Non-germinal center cells	Soft tissue 2	Adipocytes
Spleen	Cells in white pulp	Soft tissue 2	Chondrocytes
Spleen	Cells in red pulp	Skin 1	Fibroblasts
Appendix	Lymphoid tissue	Skeletal muscle	Myocytes
Lung	Macrophages	Heart muscle	Myocytes
Glandular and transitional epithelial cells			
Salivary gland	Glandular cells	Smooth muscle	Smooth muscle cells
Stomach 1	Glandular cells	Endometrium 1	Cells in endometrial stroma
Stomach 2	Glandular cells	Endometrium 2	Cells in endometrial stroma
Duodenum	Glandular cells	Ovary	Ovarian stroma cells
Small intestine	Glandular cells	Breast	Adipocytes
Appendix	Glandular cells	Other cells	
Colon	Glandular cells	Liver	Hepatocytes
Rectum	Glandular cells	Skin 1	Melanocytes
Liver	Bile duct cells	Kidney	Cells in glomeruli
Gallbladder	Glandular cells	Kidney	Cells in tubules
Pancreas	Exocrine glandular cells	Lung	Pneumocytes
Breast	Glandular cells	Testis	Cells in seminiferous ducts
Cervix, uterine	Glandular cells	Ovary	Follicle cells
Endometrium 1	Glandular cells	Colon	Endothelial cells
Endometrium 2	Glandular cells	Placenta	Decidual cells
Fallopian tube	Glandular cells	Cerebral cortex	Endothelial cells
Epididymis	Glandular cells	Placenta	Trophoblastic cells
Prostate	Glandular cells	Breast	Myoepithelial cells
Seminal vesicle	Glandular cells	CAB006831	
Bronchus	Respiratory epithelial cells	CAB006831	
Nasopharynx	Respiratory epithelial cells	CAB006831	
Urinary bladder	Urothelial cells	CAB006831	



Supplementary Figure 4: NMDA receptor subunit 1 protein expression in different human tissues and cells. Data derived from The Human Protein Atlas.