SUPPLEMENTARY MATERIALS

Supplemental tables:

Table 1: Summary of microglial marker functions and expression

Marker	Molecule Function	M1 or M2 Phenotype	Expression on other cell types
HLA-DR (MHC II)[14, 60]	・Antigen recognition and display, activation of the adaptive immune response	M1 and M2b	All antigen presenting cells (macrophages, B cells, dendritic cells), activated T cells
Iba1[57-60]	・Binds actin ・Participates in membrane reorganization and phagocytosis	・Labels all microglia regardless of phenotype (resting or activated) ・Some increase in expression with activation	Monocyte lineage cells
CD68[14, 60]	Lysosome marker, upregulated with phagocytosis	M2	Monocyte lineage cells, including perivascular or infiltrating macrophages
CD11b[14, 15, 60, 90]	・Forms part of complement receptor 3 ・Monocyte activation, adhesion, and migration ・Involved in recognition and phagocytosis of amyloid-β	・Labels all microglia regardless of phenotype (resting or activated) ・Some increase in expression with activation	Neutrophils, natural killer cells, macrophages
CD45[92, 195]	・Transmembrane protein, receptor-linked protein tyrosine phosphatase ・ Involved in signal transduction and leukocyte activation	・Labels all microglia regardless of phenotype (resting or activated) ・Some increase in expression with activation	Most nucleated hematopoetic lineage cells, including T cell and macrophages
Ferritin + cells[96, 97, 196]	・Generation of free radicals to perpetuate the immune response	M1	Astrocytes, macrophages, all cells. L-ferritin upregulated with activation in microglia
CD33[66, 70]	・Cell adhesion, migration ・May be involved with amyloid-β phagocytosis in the brain	M2	Neurons and myeloid lineage cells, including macrophages, neutrophils
TREM2[61, 105]	・Mediates TLR4 signalling ・May contribute to phagocytosis, particularly of degenerating neurons	Thought to be M2	Myeloid lineage cells, including macropahges, neutrophils
CD11c[197]	・Transmembrane cell surface integrin, acts as a receptor to various ligands ・Involved in innate immune activation	・ Unclear, CD11+ cells express both M1 and M2 markers	Monocytes, macrophages, dendritic cells, neutrophils, some B cells and activated T cells
IL-1α expressing microglia[198]	・ Stimulates immune cell activation, proliferation ・Helps stimulate the production of other pro-inflammatory cytokines, such as TNF-α and IFN-γ	M1	This analysis is intended to be restricted to IL-1α+ microglia, however infiltrating or perivascular macrophages can be difficult to distinguish from parenchymal microglia
RCA-1[114, 199]	・Cell surface lectin	・ Unclear, appears to bind both ramified and amoeboid microglia	RCA-1 stains blood vessels, which suggests it is expressed by a variety of cell types. Within the CNS, microglia appeasr to be the only resident RCA-1+ cells

TSPO[200, 201]	·Involved in substrate transport to the mitochondria	Expressed by activated microglia, possibly more in M1, though not known to differentiate between M1 and M2 *in vivo*	Expressed on mitochondria of many cell types, highly expressed by mitochondria and macrophages
CD163[120]	·Involved in phagocytosis, hemoglobin scavenging	M2	Monocyte lineage cells, including perivascular or infiltrating macrophages

Supplementary Table 1: Cluster of differentiation (CD), Human leukocyte antigen (HLA), Interleukin (IL), Interferon (IFN), Ionized calcium-binding adaptor molecule (Iba), Major histocompatibility complex (MHC), Ricinus communis agglutinin, Tumor necrosis factor (TNF), Triggering receptor expressed on myeloid cells (TREM)

Table 2: CD11b

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Direction of results
Akiyama, 1990	NR	AD: 9 C: 6	NR	AD: 77 C: 69	NR	NR	NR	No neurological disease	All within 2-12 h	Temporal lobe	IHC	↑, less pronounced increase than HLA-DR
Lee, 2016	OPTIMA and NBTR	AD: 12 C: 11	AD: 7/5 C: 6/5	AD: 73.1 C: 81.1	NR	Braak, CERAD	AD: V-VI C: I-II	NR	AD: 61.2 C: 41.5	prefrontal (BA9) and temporal (BA22) cortices	PCR	↔
McGeer, 2000	Pathology Departme nt of the University of British Columbia	NR	NR	NR	NR	NR	NR	NR	NR	Hippocampus	PCR	↑, less pronounce increased than HLA-DR
Sanchez-Mejias, 2016	Tissue bank at Fundación CIEN	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 18	Braak stage 0: 5/3 II: 7/13 III-IV: 4/5 V-VI: 7/11	Braak stage 0: 19 II: 78 III-IV: 80 V-VI: 79	NR	Braak V-VI clinically classified as AD, Braak II age -matched and used as C	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	NR	Braak stage 0: 8 II: 7 III-IV: 6 V-VI: 8	Hippocampus CA1, CA3, parahippocampa l gyrus	PCR	↔ CD11b, CD33, Iba1, TREM2 ↑ CD45, CD68 for stages V-VI IHC: ↓ area V-VI DG and CA3 More activated morphology

Shan, 2012	NBB	7 per Braak stage (49 total)	Braak stage: 0: 4/3 1: 3/4 2: 3/4 3: 3/4 4: 3/4 5: 4/3 6: 3/4	Braak stage: 0: 70.6 1: 80.3 2: 76.7 3: 85 4: 82.3 5: 74.3 6: 70.3	NR	Yes	AD: 5-6 C 0-1	No history of neurological and/or psychiatric disorders	Braak stage: 0: 6.8 I: 6 II: 7.3 III: 6 IV: 5.1 V: 5.6 VI: 4.7	Prefrontal cortex	PCR	↔with increasing Braak stage Braak stage V-VI had clinical AD and were compared to stage II Cs

Table 2: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Brodmann area (BA), Cluster of differentiation (CD), Centro Investigación Enfermedades Neurológicas (CIEN), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA), Harvard Brain Tissue Resource Center (HBTRC, Human leukocyte antigen (HLA), Hours (h), Netherlands Brain Bank (NBB), Newcastle Brain Tissue Resource (NBTR), Not reported (NR), Oxford Project to Investigate Memory and aging (OPTIMA), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Triggering receptor expressed on myeloid cells 2 (TREM2)

Table 3: CD45

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Direction of results
Akiyama, 1990	NR	AD: 9 C: 6	NR	AD: 77 C: 69	NR	NR	NR	No neurological disease	All within 2-12 h	Temporal lobe	IHC	↑, less pronounced increase than HLA-DR
Colton, 2006	KPBBB	AD: 47 C: 29	AD: 23/24 C: 12/17	AD: 77.8 C:78.3	APOE4: AD: 27 C: 5	Braak	AD: IV- V C: I	NR	AD: 6.8 C: 9.1	Frontal lobe	PCR	↔
Magistri, 2015	BSHRI	AD: 4 C: 4	AD: 1/4 C: 2/2	AD: 83.75 (not exact, one age just listed >90) C: 83.5	AD: all APOE3/3 C: APOE2/3: 2 APOE3/3: 1 NR: 1	NIA-Reagan Criteria	AD: V: 1 VI: 3 C: I: 1 II: 3	NR	AD: 2.5 C: 2.5	Hippocampus	RNA seq (gene expression)	↔
Licastro, 1998	Tissue bank of the ADRC at the University of California San Diego	AD: 18 C: 4	AD: 10/8 C: 2/2	AD: 80 C: 76	APOE: AD: 3/4: 6 4/4: 2 C: NR	CERAD, Khachaturian	NR	No history or histopathological features of brain disease	All avg 6	Midfrontal cortex	IHC	↑ both scattered and clustered cells

Masliah, 1991	ADRC at the University of California	AD: 7 C: 5	NR	AD: 77 C: 73	NR	Yes	NR	Clinically and histopathologically free of neurological disease	AD: 5 C: 6	Frontal cortex, posterior hippocampus	IHC, Western	↑ frontal cortex hippocampus molecular layer and pyramidal layer ↔ hippocampus stratus polymorphous
Sanchez-Mejias, 2016	Tissue bank at Fundación CIEN	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 18	Braak stage 0: 5/3 II: 7/13 III-IV: 4/5 V-VI: 7/11	Braak stage 0: 19 II: 78 III-IV: 80 V-VI: 79	NR	Braak V-VI clinically classified as AD, Braak II age -matched and used as C	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	NR	Braak stage 0: 8 II: 7 III-IV: 6 V-VI: 8	Hippocampus CA1, CA3, parahippocampal gyrus	PCR	↑ with increasing Braak stage Braak stage V-VI had clinical AD and were compared to stage II Cs

Table 3: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Alzheimer's Disease Research Center (ADRC), Apolipoprotein E (APOE), Average (Avg), Banner Sun Health Research Institute (BSHRI), Centro Investigación Enfermedades Neurológicas (CIEN), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA), Human leukocyte antigen (HLA), Hours (h), Immunohistochemistry (IHC), Kathleen Price Bryan Brain Bank (KPBBB), National Institute on Aging (NIA), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Ribonucleic acid (RNA), Sequencing (Seq)

Table 4: Ferritin

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Kwiatek-Majkusiak, 2015	Mayo Clinic Florida Brain Bank	AD: 10 C: 20	AD: 6/4 C: 9/11	AD: 75.6 C: 72.6	NR	Yes	AD: 5.3	No neurodegenerative disorders	NR	Hippocampus CA1, CA2, CA4, subiculum	ELISA	L-ferritin	↑
DiPatre, 1997	NR	AD: 9 Age-matched Cs: 9 Young Cs: 8	NR	AD: 72 Age-matched Cs: 73 Young Cs: 38	NR	CERAD	NR	No neuropathological abnormality	NR but did not vary between groups	Entorhinal cortex, hippocampus (CA1, CA2, CA3, CA4, DG, subiculum separately)	IHC	Ferritin	↑ in all areas
Fukumoto, 1996	NR	AD: 10 C: 26	NR	NR	NR	Khachaturian	NR	NR, Cs had neocortical senile plaques	NR	Occipital (BA 18), superior frontal (BA 8 or 9) and medial temporal (BA 20, at the level of the entorhinal cortex and hippocampus) neocortices	IHC	Ferritin	Plaques associated with microglia: ↑ uncored plaques, frontal cortex ↓ or ↔ uncored plaques temporal, occipital cortices ↓ or ↔ cored plaques in frontal, occipital and temporal cortices

Lopes, 2008	BSHRI	AD:7 Young Cs: 3 Aged Cs: 7 HPC: 7	AD: 4/3 Young Cs: 2/1 Aged Cs: 6/1 HPC: 5/2	AD: 80.3 Young Cs: 36.3 Aged Cs: 80.0 HPC: 83.4	NR	Yes	NR	NR	AD: 2.3 Young Cs: 2.8 Aged Cs: 2.5 HPC: 2.90	Amygdala, hippocampus, superior frontal gyrus, superior, middle, and inferior temporal gyri	IHC and Morphometric Analyses	Ferritin	Ferritin: ↔ Dystrophic microglia ↑ vs all other groups
Mochizuki, 1996	NR	AD: 8 HPC: 4	AD: 5/3 HPC: 3/1	AD: 79.3 HPC: 73.3	NR	Yes	NR	No history of neurological and/or psychiatric disorders or AD symptoms but pathology meets CERAD and Khachaturian criteria	AD: 5.6 C: 3.9	Amygdala, entorhinal cortex, hippocampus and frontal, occipital, parietal and temporal neocortices	IHC	Ferritin	↑ total microglia ↔ in percentage of plaques (diffuse or non-diffuse) associated with microglia (p=0.055 and 0.052)
Ohgami, 1991	NR	AD: 13 HPC: 23	NR	AD: 59.8 HPC: 72.7	NR, but all AD cases used were early onset (<65)	Khachaturian	NR	NR, Cs had senile plaques	NR	Mixed: frontal, insular, occipital, parietal and temporal cortices and parahippocampal gyrus	IHC	L- ferritin (microglia positive senile plaques)	↑ microglia associated diffuse plaques ↔ microglial associated classical or compact plaques
Wojtera, 2012	Not reported	AD:4 C: 2	NR	NR	NR	NIA-Reagan Criteria	NR	Not reported	NR	Mixed: cerebellum, cerebral cortex	IHC	Ferritin	↔, ↔ between cortex and cerebellum

Table 4: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Apolipoprotein E (APOE), Brodmann area (BA), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA Dentate gyrus (DG), High pathology control (HPC), Hours (h), Immunohistochemistry (IHC, Not reported (NR), Post-mortem interval (PMI)

Table 5: CD33

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Griciuc, 2013	Massachusetts ADRC	AD: 25 C: 15	AD: 7/18 C: 6/9	AD: 79.2 C: 79.9	APOE carrier: AD: 18 (8 homozygous) C: 5 (0 homozygous)	NIA-Reagan Institute Criteria	NR	NR	AD: 17 C: 29	Frontal cortex	IHC (stereology), PCR, Western	CD33	⬆ protein, mRNA, CD33+ microglia
Malik, 2013	University of Kentucky AD Center Neuropathology Core	AD: 28 C: 27	AD: 12/16 C: 13/14	NR	CD33 SNPs measures	Yes	NR	NR	NR	Superior/middle temporal gyri	IHC, PCR	Ratio CD33 to mean of microglial reference genes	⬆ gene expression, colocalization to amoeboid microglia (non-quantitative)
Sanchez-Mejias, 2016	Tissue bank at Fundación CIEN	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 18	Braak stage 0: 5/3 II: 8/5 III-IV: 4/5 V-VI: 7/11	Braak stage 0: 49 II: 78 III-IV: 80 V-VI: 79	NR	Braak Braak V-VI clinically classified as AD, Braak II age -matched and used as control	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	NR	Braak stage 0: 8 II: 7 III-IV: 6 V-VI: 8	Hippocampus CA1, CA3, parahippocampal gyrus	PCR	CD33	↔
Walker, 2015	Arizona Study of Aging and Neurodegenerative Disorders via BSHRI	AD: 97 C: 96	AD: 49/48 C: 50/46	AD: 82.2 C: 84.9	APOE4 excluded Various genotypes of CD33 rs386544 risk allele (C/C, C/A, A/A)	Yes	NR	NR	For overall sample: AD: 3.6 C: 4.0	Temporal cortex	Western blot PCR	CD33	⬆ RNA ↔ Protein - Positive correlation between CD33 and Iba1 - Colocalization with HLA-DR

Table 5: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Alzheimer's Disease Research Center (ADRC), Apolipoprotein E (APOE), Banner Sun Health Research Institute

(BSHRI), Centro Investigación Enfermedades Neurológicas (CIEN), Cluster of differentiation (CD), Control (C), Cornu ammonis (CA), Hours (h), Human leukocyte antigen (HLA), Ionized calcium-binding adapter molecule 1 (Iba1), Immunohistochemistry (IHC), National Institute on Aging (NIA), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Ribonucleic acid (RNA), Single nucleotide polymorphism (SNP)

Table 6: TREM2

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Lue, 2015	BSHRI	AD: 11 C: 11 Possible AD: 11	AD: 6/5 C: 7/4 Possible AD: 3/8	AD: 82.4 C: 85.4 Possible AD: 86.5	APOE 4 Carriers: AD: 5/6 C: 1/10 Possible AD: 2/9	Braak, CERAD	AD: Avg 5.2 C: Avg 2.8 Possible AD: Avg 2.9	NR	NR	Middle temporal cortex	IHC, Western	Iba1 TREM 2 DAP12 (TYRO BP)	Western: ↑ TREM2 and DAP12 than C and HPC IHCs: ↑ intensity of TREM2
Ma, 2016	Brain Bank at Mayo Clinic, Jacksonville	AD: 33 C: 33	AD: 16/17 C: 15/18	AD: 72.7 C: 70.7	No risk alleles for APP, PSEN or TREM2 APOE4: AD: 16/17 C: 15/ 18	Braak	AD: >IV C: <3	Most had pathology unrelated to AD: cerebrovascular, frontotemporal dementia, Lewy body disease, corticobasal degeneration, argyrophilic grain disease, multi-system atrophy, amyotrophic lateral sclerosis, progressive supranuclear palsy	NR	Temporal cortex	PCR, Western	Iba1 TREM 2	↑ TREM2 normalized to Iba1

Roussos, 2014	Icahn School of Medicine at Mount Sinai and the ADRC Brain Bank	AD (genotype differences): C/C: 16 C/T: 16 C: 16	AD: C/C: 5/11 C/T: 5/11 C: 5/11	AD: C/C: 83.0 C/T: 82.3 C: 82.6	APOE 4 and R47H variant of TREM2 significantly more common in cases than Cs	Braak, CERAD	NR	NR	AD: C/C: 14.5 C/T: 13.9 C: 13.3	Superior temporal gyrus	PCR, Western	TREM2 TYROBP	Gene expression: ⬆ TREM2 and TYROBP in AD R47H carriers ↔ in AD non carriers Protein levels: ⬇ TREM2 in AD R47H carriers ↔ AD non carriers ⬆ TYROBP in non-carriers ↔ in carriers
Sanchez-Mejias, 2016	Tissue bank at Fundación CIEN	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 18	Braak stage 0: 5/3 II: 7/13 III-IV: 4/5 V-VI: 7/11	Braak stage 0: 19 II: 78 III-IV: 80 V-VI: 79	NR	Braak V-VI clinically classified as AD, Braak II age -matched and used as C	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	NR	Braak stage 0: 8 II: 7 III-IV: 6 V-VI: 8	Hippocampus CA1, CA3, parahippocampal gyrus	PCR	TREM2	↔stage V-VI vs II Braak stage V-VI had clinical AD and were compared to stage II Cs

Table 6: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Alzheimer's Disease Research Center (ADRC), Amyloid precursor protein (APP), Apolipoprotein E (APOE), Average (Avg), Banner Sun Health Research Institute (BSHRI), Centro Investigación Enfermedades Neurológicas (CIEN), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA), DNAX-activation protein 12 (DAP12), High pathology control (HPC), Hours (h), Ionized calcium-binding adapter molecule 1 (Iba1), Immunohistochemistry (IHC), Not reported (NR), Post-mortem interval (PMI), Presenilin (PSEN), Polymerase chain reaction based assays (PCR), Triggering receptor expressed on myeloid cells 2 (TREM2), TYRO protein tyrosine kinase binding protein (TYROBP)

Table 7: CD11c

First author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Akiyama, 1990	NR	AD: 9 C: 6	AD: 77 C: 69	NR	NR	NR	NR	No neurological disease	2-12	Temporal lobe	IHC	CD11c (Leu-M5)	⬆ most pronounced difference for HLA-DR
Itoh, 1998	Yokufukai Geriatric Hospital	AD: 20 C: 20 Centenarian: 13	NR	AD: 80.9 C: 79.8 Centenarian: 101.5	NR	CERAD	NR	Other neurological diseases excluded	NR	Hippocampus (CA1 and subiculum), superior temporal gyrus	IHC	CD11c (Ki-M1P)	⬆
Paulus, 1993	NR	AD: 6 C: 6	NR	AD: 79.7 C: 67.9	NR	CERAD, Khachaturian	NR	No neurological or neuropathological disorder	8-48	CA1 sector of the hippocampus, granular layer of the DG, fourth/fifth frontal neocortical layers, frontal white matter	IHC	CD11c (Ki-M1P)	⬆ Frontal cortex ↔ White matter and hippocampus

Yamada, 2001	NR	AD: 5 C: 5	NR	AD: 92.8 C: 93.4	NR	NR	NR	NR	NR	Entorhinal cortex, hippocampus (CA1, subiculum)	IHC	CD11c (Ki-M1P)	↑

Table 7: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Cluster of differentiation (CD), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA), Dentate gyrus (DG), Human leukocyte antigen (HLA), Hours (h), Immunohistochemistry (IHC), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR)

Table 8: IL-1α expressing microglia

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Sheng, 2001	NR	AD: 12 C: 9	AD: 4/8 C: 7/2	AD: 63-92 C: 50-93	NR	CERAD	NR	No evidence of neurological or psychiatric disease	AD: 2-13 C: 1-15	Parahippocampal cortex	IHC, PCR	IL-1α expressing microglia	⬆ IL-1α positive microglia (activated morphology)
Sheng, 1998	NR	AD:9 C: 4	AD: 8/1 C: 4/0	AD:65-88 C: 61-83	NR	CERAD	NR	No clinical or pathological evidence of neurological disease	AD: 10 C: 5	Temporal lobe	IHC	IL-1α expressing microglia	⬆ in cortical layers III-VI ↔ in cortical layers I-II - IL-1-α+ microglia appeared enlarged and highly immunoreactive in AD but smaller and less immunoreactive in C - In AD brains, IL1-α+ microglia distribution correlated with neuritic plaques
Sheng, 1995	NR	AD: 8 C: 6	AD: 6/2 C: 5/1	AD: 76.1 C: 63.5	NR	CERAD	NR	No evidence of neurological disease, two had schizophrenia	AD: 9.3 C: 5.5	Cerebellum, hippocampus, frontal lobe, occipital lobe, temporal lobe	IHC	IL-1α expressing microglia	⬆ Hippocampus, frontal, occipital, temporal, lobes ↔ cerebellum

Table 8: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Hours (h), immunohistochemistry (IHC), Interleukin (IL), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR)

Table 9: RCA-1

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Microglia Marker	Direction of results
Mackenzie, 1995	University Hospital, London, Canada	AD: 11 C (no sp): 14 C (dp only): 12 C (dp and np): 14	NR	AD: 76.7, C (no sp): 75.1 C (dp only): 74.3 C (dp and np): 74.1	NR	Yes	NR	No history of neurologic disease or systemic condition that could affect microglial numbers	NR	Anteromesial temporal lobe	IHC	RCA-1	⬆ in AD than all C groups ⬆ in C groups with NP than with diffuse or no plaque
Sheffield, 2000	AD: University of Iowa Alzheimer's Disease Research Center C: University of Kansas Medical Center Willed Body Program	AD: 12 C: 4	AD: 6/6, C: 2/2	AD: 79.4 C: 77.8	NR	Khachaturian	AD: all IV C: 0: 3 I: 1	No history of neurological disease	NR	Association cortex, periallocortex/ allocortex, primary cortex	IHC	RCA-1	⬆

Table 9: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Control (C), Diffuse plaque (dp), Hours (h), Immunohistochemistry (IHC), Not reported (NR), Post-mortem interval (PMI), Ricinus communis agglutin-1 (RCA-1), Senile plaque (sp)

Table 10: TSPO

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Marutle, 2013	Brain Bank at Karolinska Instetuet and the NBB	AD: 11 C: 13	NR	AD: 75.2 C: 73.9	NR	CERAD, NINCDS-ADRDA	AD: 5-6 C: 1-2	NR	AD: 15.9 C: 18.5	Frontal Cortex, hippocampus	Binding assay	PK11195	⬆Frontal cortex ↔Hippocampus
Kravitz, 2013	NBB	AD: 23 C: 17	AD: 11/12 C: 9/8	AD: 79.7 C: 79.7	APOE AD: 3/4: 12 4/4: 3 C: 3/4: 1	Braak	AD: IV: 3 V: 17 VI: 3 C: 0: 5 I: 7 II: 4 ND: 1	NR	A: 5.7 C: 8.7	Entorhinal cortex, hippocampus, subiculum, striatum	Autoradiography, PCR	PK11195 TSPO	Autoradiography: ⬆ PK11195 in all regions PCR: ⬆ TSPO in hippocampus ↔ TSPO striatum

Table 10: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Apolipoprotein E (APOE), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Hours (h), National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer's Disease and Related Disorders Association (NINCDS-ADRDA), Netherlands Brain Bank (NBB), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Translocator protein (TSPO)

Table 11: CD163

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Direction of results
Dal Bianco, 2008	NR	AD: 9 C: 15	AD: 0/9 C: 13/2	AD: 81 C: 70	NR	Braak, CERAD	AD: IV: 2 V: 4 VI: 3	No neurological disease or brain lesions	NR	Cortical areas of the temporal lobe, including entorhinal cortex, hippocampus and temporal cortex	Immunocytochemistry	↑
Pey, 2014	Corsellis Archival Collection	AD: 31 C: 16	AD: 21/10 C: 8/8	AD: 76 C: 70	NR	Braak, BrainNet Europe Consortium Guidelines	AD: V and VI	No neurological causes of death	NR	Hippocampus, frontal cortex, occipital cortex	IHC	↑

Table 11: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Cluster of differentiation (CD), Control (C), Hours (h), Immunohistochemistry (IHC), Not reported (NR), Post-mortem interval (PMI)

Table 12: Microglia identified based on morphology

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Pelvig, 2003	Nederlandse Hersenbank, Holland, Johns Hopkins University Hospital, Baltimore, USA and from departments of pathology in Denmark	AD: 14 C: 20	AD: 4/10 C: 6/14	AD: 81.1 C: 80.5	NR	Yes	NR	NR - non-neurological causes of death	NR	Mixed: cingulate gyrus, hippocampus, insula, frontal, medial, occipital, parietal and temporal lobes, and one or two tiers of mesencephalon	Stereology, Cavalieri's principle	Identified by morphology	↔ mean total number of glial cells in neocortex
Shefer, 1977	NR	AD: 6 C: NR	NR	AD: 67 C:77	NR	NR	NR	Neurological illness not examined, psychologically healthy	NR	Subiculum of the archicortex in the hippocampal fissure	Nissl	Identified by morphology	↑ relative number of microglia per volume and absolute number of glial cells

Table 12: Where there are both young and older controls, values are reported for the older (age-matched controls). Alzheimer's Disease (AD), Control (C), Hours (h), Not reported (NR)

Table 13: Other markers

First Author	Brain bank	n	Sex	Age	AD Genetic Risk Factors	AD Histologically Confirmed	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results
Akiyama, 1990	NR	AD: 9 C: 6	NR	AD: 77 C: 69	NR	NR	NR	No neurological disease	All within 2-12 h	Temporal lobe	IHC	CD11a, CD64, CD18	⬆ most pronounced difference for HLA-DR
Cimino, 2009	University of Washington's ADRC	AD:6 C: 6	AD: 2/4 C: 2/4	AD: 76.0 C: 77.2	NR	NR	NR	NR	All <8 h	Frontal cortex and Hippocampus	IHC	DOCK2 (Co-localized with RCA-1)	⬆ DOCK2+ cells in both frontal cortex and hippocampus ⬆ DOCK2+ and RCA1+ co-labelled cells in both frontal cortex and hippocampus
Dal Bianco, 2008	NR	AD: 9 C: 15	AD: 0/9 C: 13/2	AD: 81 C: 70	NR	Braak, CERAD	AD: IV: 2 V: 4 VI: 3	No neurological disease or brain lesions	NR	Cortical areas of the temporal lobe, including entorhinal cortex, hippocampus and temporal cortex	Immunocytochemistry	B2M, GLUT, HC-10, HMGB, iNOS, MHCII, Siglec	↔ B2M ⬆ HC-10 near plaque only ⬆ Siglec near plaque only ⬆ iNOS near plaque only ⬆ HMGB near plaque only ⬆ GLUT near plaque only
Dhawan, 2012	University of Washington ADRC	NR	NR	NR - "age matched"	NR	NR	NR	NR	NR	Temporal lobe	IHC	Protein phosphotyrosine (Co-localized with MHC-II)	⬆ microglia with phosphotyrosine and enzymes involved in tyrosine

													phosphorylation
Green, 2004	ADRC Brain Bank at Massachusetts General Hospital	NR	NR	AD: 73 C: 68	NR	CERAD	NR	NR	AD: 12.0 C: 12.2	Mixed: frontal, parietal and temporal cortices	Peroxidase activity, IHC, immunoblot	Myeloperoxidase (Colocalized with HLA-DR)	⬆ MPO reactivity in AD microglia
Kawaguchi-Niida, 2006	NR	AD:5 C:5	AD: 3/2 C: 2/3	AD: 81.4 C: 75.8	NR	Yes	NR	NR	NR	Parahippocampal gyrus, subiculum, CA1 to CA4 segments of Sommer's Sector, DG and adjacent white matter	IHC	Protein bound carbonyl crotonaldehyde (Co-stained for GLUT-5)	⬆ protein bound carbonyl crotonaldehyde positive microglia
Lue, 2001	BSHRI	AD:11 C:10	AD: 5/6 C: 4/6	AD:80.8 C: 80.5	APOE: AD: 3/4: 4 4/4: 4 C: 3/4: 3 4/4: 1	Braak, CERAD	AD: IV-VI C: I-III	NR	AD: 2.6 C: 2.3	Hippocampus	IHC	RAGE (Colocalized with HLA-DR)	⬆ RAGE+ microglia in hippocampus (dentate gyrus, CA, subiculum)
Matsuo, 1996	NR	AD: 8 C: 5	NR	NR	NR	Yes	NR	Neurologically normal	All 2-24	Angular, entorhinal, hippocampus, occipitotemporal temporal cortices	IHC	CD43 (mainly stains microglia, decreases with activation)	⬇

Minett, 2016	Medical Research Council Cognitive Function and Ageing Study - six centres in UK	AD: 83 C: 130	AD: 64/53 C: 51/66	AD: 89 C: 84	NR	CERAD	NR	NR	NR	Middle frontal gyrus (BA9)	IHC	MSR-A	↑ MSR-A -Associated negatively with cognition (MMSE), positively with AD pathology (plaques, tangles)
Pujol-Gimenez, 2014	Oxford Projectto Investigate Memory and Ageing and the HumanBrain Tissue Biobank "Biobanco Navarrabiomed"	AD: 12 C: 12	AD: 5/7 C: 4/8	AD: 81 C: 75	NR	CERAD	AD: V or VI C: 0-II	No history of neurological disease	AD: 49 C: 39	Frontal cortex (BA 10)	Western	OX-42	↑
Rangaraju, 2015	Emory ADRC Neuropathology Core, Atlanta	AD: 10 C: 10	AD: 6/4 C: 6/4	AD:71.5 C: 71.5	APOE: AD: 8 with APOE4 (3 homozygous) C: 1 APOE4 (0 homozygous	Yes	AD: All VI C: 0	NR	NR	Frontal cortex	IHC	Kv1.3	↑ Kv1.3

Ricciarelli, 2004	Institute of Pathology, Case Western Reserve University and ADRC at the University of Kentucky	AD: 6 C: 6 HPC: 6	NR	AD: 85 C: 65 HPCs: 74	NR	CERAD	NR	No history of neurological disorder	AD: 7 C: 9 C with Plaques: <3	Frontal Cortex	PCR, Immunoblot	CD36	⬆ vs C, ↔ vs HPC
Sanchez-Mejias, 2016	Tissue bank at Fundación CIEN	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	Braak stage 0: 5/3 II: 7/13 III-IV: 4/5 V-VI: 7/11	Braak stage 0: 19 II: 78 III-IV: 80 V-VI: 79	NR	Braak V-VI clinically classified as AD, Braak II age - matched and used as C	Braak stage 0: 8 II: 13 III-IV: 9 V-VI: 17	NR	Braak stage 0: 8 II: 7 III-IV: 6 V-VI: 8	Hippocampus CA1, CA3, parahippocampal gyrus	IHC	P2ry12	⬇ area in stage V-VI DG and CA3 ↔CA1 and parahippocampal gyrus - More activated morphology - Braak stage V-VI had AD and were compared to Braak stage II Cs
Satoh, 2015	NR	AD: 7 C: 14	AD: 5/5 C: 6/5	AD: 70 C: 75	NR	Braak, CERAD	AD: VI: 10	4 died of non-neurological causes, 3 with Parkinson's, 4 ALS	NR	Frontal cortex	IHC, PCR, Western	Transmembrane protein (TMEM) 119 (Co-localised with Iba1)	PCR: ⬆ IHC: ↔ Western: ↔

Strohmeyer, 2014	BSHRI	NR	NR	NR	NR	Yes	NR	NR	All <4 h	Limbic cortex and neocortex (locus ceruleus, mid-frontal gyrus, superior frontal gyrus, superior parietal lobule, temporal lobe, visual cortex)	IHC	C/EBPb (Co-localized with HLA-DR)	⬆
Verbeek, 1995	NR	AD: 41 C: 13	AD: 14/24 C: 5/8	AD: 78.0 C: 71.5	NR	Yes	NR	NR	AD: 2.1 C: 3.2	Grey matter of: cerebellum, frontal cortex, hippocampus, and parietal, occipital and temporal cortices	IHC	25F9 (activated microglia)	⬆ Activated microglia
Walker, 2002	BSHRI	AD: 6-9/region C: 5-9/region	Varies by region	Varies by region, for overall sample: AD: 81.9 C: 79.8	NR	CERAD	NR	NR	Varies by region, for overall sample: AD: 2.6 C: 2.4	Cerebellum, hippocampus, inferior and superior temporal gyri	microglia isolation (qualitative), immunoblot (quantitative), immunohistochemistry (qualitative)	CD87	⬆ hippocampus, superior and inferior temporal gyri ↔ cerebellum

Table 13: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Arginase 1 (AG1), Alzheimer's Disease Research Center (ADRC), Apolipoprotein E (APOE), Banner Sun Health Research Institute (BSHRI), Brodmann area (BA), Cationic amino acid transporter member 2 (CAT2), Cluster of differentiation (CD), Centro Investigación Enfermedades Neurológicas (CIEN), Chitinase 3-like (CHI3L), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), Cornu ammonis (CA), Dedicator of cytokinesis 2 (DOCK-2), Dentate gyrus (DG), Glucose transporter (GLUT), High mobility group box 1 (HMGB1), High pathology control (HPC), Human leukocyte antigen (HLA), Hours (h), Ionized calcium-binding adapter molecule 1 (Iba1), Immunohistochemistry (IHC), inducible nitric oxide synthase (iNOS), Kathleen Price Bryan Brain Bank (KPBBB), Macrophage scavenger receptor A (MSR-A), Mannose receptor (MRc), Major histocompatibility complex (MHC), Mini-mental state exam (MMSE), Myeloperoxidase (MPO), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Receptor for advanced glycation endproducts (RAGE), Ricinus communis agglutin-1 (RCA-1), Sialic acid-binding immunoglobulin-type lectins (Siglec)

Table 14: High throughput studies

First Author	Brain bank	n	Sex (m/f)	Age	AD Genetic Risk Factors	AD Histologically Confirmed and criteria	Braak stage	C history of neurological or psychiatric disease	PMI (h)	Brain Region	Technique	Marker	Direction of results (AD vs C)
Cribbs, 2012	National Institute on Aging Alzheimer's Disease Center brain banks located at the University of Califor-nia, Irvine, Sun Health Research Institute, University of Rochester, Johns Hopkins University, University of Maryland, University of Pennsylvania, and the University of Southern California	AD: 26 C: 33	AD: 11/15 C: 14/19	AD: 85.7 C: 84.2	APOE4 Carriers: AD: 17 C: 4	CERAD, NIA-Reagan Criteria	AD: I: 1 II: 1, III: 3 IV: 6 VI: 12 C: 0: 5 I: 2 II: 12 III:6 IV: 3	No history of neurological and/or psychiatric disorders, no major neuropathological abnormalities	AD: 4.4 C: 4.0	Entorhinal cortex, hippocampus, post-central gyrus, superior frontal gyrus	Microarray, small subset with PCR	Markers of microglial activation (Fc receptors, MHC, TLR)	↔ For most genes relative to age-matched Cs: all measured MHC I genes, HLA-DPβ1, HLA-DQα1, HLA-DQβ1, HLA-DRβ1,3,4 and 6, all measured Fc fragment genes, CD163, CD14, TLR 10, TLR2, TLR4, TLR8 ⬆ HLA-DMα, HLA-DMβ, HLA-DPα, HLA-DRα, HLA-DRβ5 (SFG), TLR 5 (HC and SFG), TLR7 (SFG, not confirmed by PCR), CD32 (SFG) ⬇ Toll interacting protein (HC) ⬆ for most genes relative to young Cs
Durrenberger, 2015	Institute of Neuropathology in Barcelona and Human Brain Tissue Bank in Budapest	AD: 12 C: 6	AD: 7/5 C: 3/3	AD: 81.3 C: 60.3	NR	Yes, Braak	AD: IV-V C: <II	No neurodegenerative disorder, systemic illness or alcohol or drug abuse	AD: 6.0 C: 8.7	Entorhinal cortex	Microarray, PCR validation*	HLA-DRA*, HLA-DPA, HLA-DRB4*, TREM2, TYROBP*, CD74, CPVL, GRAMD1C, annexin A1, RFX4, CD37 and TYROBP	⬆

Li, 2015	NR	AD: 450 C: 212	NR	NR	NR	NR	NR	NR	NR	Super frontal gyrus or prefrontal cortex	Meta-analysis of six gene expression studies	Dok-3 (links with TYROBP)	↑
Podtelez nikov, 2011	HBTRC	Varies by region - up to 181 AD and 125 C	Varies by region	Varies by region AD: 47-100 C: 22-106	NR	Braak	AD: >III	NR	All avg 18	Cerebellu m, dorsolater al prefrontal cortex (BA9) visual cortex (BA 17)	Microarray, principal component analysis	Combinati on of microglial and cytokine genes	↑
Seyfried , 2017	Baltimore Longitudinal Study of Aging (BLSA) or the Emory Alzheimer's Disease Research Center (ADRC) Brain Bank	AD: 20 (+8 validat ion) HPC: 15 C: 15 (+8 validat ion)	Whole sampl e: AD: 16/20 HPC: 20/9 C: 21/7	AD: >55 HPC: >71 C: >57	Whole sample: AD: N/A: 1 2-3: 7 3-3: 21 3-4: 15 4-4: 3 HPC: 2-3: 2 3-3: 20 3-4: 7 C: 2-3: 11 3-3: 22 3-4: 1 4-4: 2	Braak, CERAD	For subset : AD: IV: 8 V: 8 VI: 24 HPC: I: 0 II: 3 III: 8 IV: 16 VI: 2 C: I: 5 II: 15 III: 4 IV: 4	NR		Dorsolater al prefrontal cortex (BA9) Precuneus (BA 7)	Proteomics	Protein network enriched with microglia and astrocyte markers	↑ relative to C ↔ relative to HPC

Zhang, 2013	HBTRC, validated with brains from National Alzheimer's Coordinating Center Brain Banks and the Miami Brain Bank	Micro array: AD: 376 C: 173 Valida tion: AD: 377 C: 359	NR	NR	NR (increas ed OR for AD with ε4 allele confirm ed in overall HBTRC sample)	Braak	NR	NR	All avg 17.8	Microarra y: Cerebellu m, dorsolater al prefrontal cortex (BA9), visual cortex (BA17) Validation : temporal and prefrontal cortex	Microarray with analysis of functional categories of gene expression	Microglia gene expression module, TYROBP	↑

Table 14: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Alzheimer's Disease (AD), Alzheimer's Disease Research Center (ADRC), Apolipoprotein E (APOE), Average (Avg), BrainNet Europe (BNE), Brodmann area (BA), Carboxypeptidase vitellogenic-like (CPVL), Cluster of differentiation (CD), Consortium to Establish a Registry for Alzheimer's Disease (CERAD), Control (C), GRAM domain containing 1C (GRAMD1C), Harvard Brain Tissue Resource Center (HBTRC), High pathology control (HPC), Human leukocyte antigen (HLA), Hours (h), Major histocompatibility complex (MHC), National Institute on Aging (NIA), Not reported (NR), Post-mortem interval (PMI), Polymerase chain reaction based assays (PCR), Regulatory factor X4 (RFX4), Superior frontal gyrus (SFG), Toll-like receptor (TLR), Triggering receptor expressed on myeloid cells 2 (TREM2), TYRO protein tyrosine kinase binding protein (TYROBP)

Table 15: Non-quantitative comparisons

Author, Year	Title	Journal	Brain Region	Technique	Marker	Results
Akiyama, 1993	Microglia express the type 2 plasminogen activator inhibitor in the brain of control subjects and patients with Alzheimer's disease	Neuroscience Letters	Temporal gyrus, angular gyrus, hippocampus (mixed)	IHC	Plasminogen activator inhibitor-2	⬆ intensity of staining, microglia had activated morphology
Akiyama, 1994	Expression of MRP14, 27E10, interferon-alpha and leukocyte common antigen by reactive microglia in postmortem human brain tissue	Journal of Neuroimmunology	Hippocampus, mid temporal gyrus and angular gyrus.	IHC	MRP14 (calcium binding protein), CD45, Interferon-alpha	↑CD45RB expression in microglia in AD vs. control in the cerebral cortex. ↑MRP-14 expression in microglia in AD vs. control. In AD these microglia appeared reactive in shape and frequently formed aggregates in the ↑interferon-alpha+ microglia in AD vs. control in the cortex. In AD microglia aggregates in senile plaques were stained intensely.
Akiyama, 1994b	Expression of the receptor for macrophage colony stimulating factor by brain microglia and its upregulation in brains of patients with Alzheimer's disease and amyotrophic lateral sclerosis	Brain Research	Hippocampus, middle temporal gyrus, precentral gyrus	IHC	CSF-1	↑CSF-1 stained microglia in AD vs. control, activated morphology
An, 2009	Expression and localization of lactotransferrin messenger RNA in the cortex of Alzheimer's disease	Neuroscience Letters	Temporal cortex (cerebral cortex?)	IHC+in situ hybridization	Lactoferritin (iron binding protein)+ HLA-DR to identify microglia	↑Lactoferritin mRNA in HLA-DR+microglia in AD vs. control, marker of activation
Arends, 2000	Microglia, amyloid and dementia in Alzheimer disease. A correlative study	Neurobiology of Aging	Middle frontal gyrus (BA9)	IHC	CD68	↔ correlation with dementia rating, but all but least severe patients had high density ⬆ Correlated with congophilic amyloid deposits ↔ correlation with Aβ or NFT

Bayer, 1999	Evidence for activation of microglia in patients with psychiatric illnesses	Neuroscience Letters	Hippocampus and frontal cortex	IHC	HLA-DR	↑HLA-DR in AD vs. control
Bryan, 2008	Expression of CD74 is increased in neurofibrillary tangles in Alzheimer's disease	Molecular Neurodegeneration	Hippocampal tissue	Immunocytochemistry	CD74	↑CD74 labelled microglia in AD vs. control (marker of activation)
Carrano, 2011	Amyloid Beta induces oxidative stress-mediated blood-brain barrier changes in capillary amyloid angiopathy	Antioxidants & Redox Signaling	Occipital pole cortex.	IHC	NOX-2 + morphology	↑
Christie, 1996	Expression of the macrophage scavenger receptor, a multifunctional lipoprotein receptor, in microglia associated with senile plaques in Alzheimer's disease	American Journal of Pathology	Hippocampal formation and adjacent temporal neocortex	IHC	LN3 (HLA-DR)	↑ number of activated microglia (HLA-DR stained) in AD (typically associated with plaques) vs. control
Christie, 1996b	Expression of the very low-density lipoprotein receptor (VLDL-r), an apolipoprotein-E receptor, in the central nervous system and in Alzheimer's disease	Journal of Neuropathology & Experimental Neurology	Hippocampus and adjacent temporal lobe	IHC	HLA-DR,	↑microglia of activated morphology in AD cortex than in control. - In control there was uniform staining of microglia throughout depth of dentate gyrus, but in AD there was more immunoreactivity in the inner third layer. – very low-density lipoprotein receptor positive microglia colocalize with Aβ in senile plaques in AD.
Dickinson, 1988	Alzheimer's disease. A double-labeling immunohistochemical study of senile plaques	American Journal of Pathology	Hippocampus and parahippocampal gyrus	IHC	RCA-1	↑
Dickson, 1996	Glycation and microglial reaction in lesions of Alzheimer's disease	Neurobiology of Aging	Hippocampus	IHC	HLA-DR	↑

Drache, 1997	Bcl-xl-specific antibody labels activated microglia associated with Alzheimer's disease and other pathological states	Journal of Neuroscience Research	Amygdala, cerebellum, hippocampus, neocortex (BA 21, 22)	Western, IHC	Bcl-xl (homologue bcl-2) in microglia	↓, lower microglia survival
Grundke-Iqbal	Ferritin is a component of the neuritic (senile) plaque in Alzheimer dementia	Acta Neuropathologica	Hippocampus	IHC	Ferritin- positive microglia	↑
Guillemin, 2005	Indoleamine 2,3 dioxygenase and quinolinic acid immunoreactivity in Alzheimer's disease hippocampus	Neuropathology & Applied Neurobiology	Temporal lobe (hippocampus, amygdala, fusiform cortex, entorhinal cortex)	IHC	Quinolinic acid, indoleamine co-labelled with ferritin (thought to mark activated microglia)	↑
Haga, 1989	Demonstration of microglial cells in and around senile (neuritic) plaques in the Alzheimer brain. An immunohistochemical study using a novel monoclonal antibody	Acta Neuropathologica	Not reported	IHC and immnoperoxidase staining	AD11/8 (stains microglia) and peroxidase staining for microglia	↑
Hoozemans, 2001	Cyclooxygenase expression in microglia and neurons in Alzheimer’s disease and control brain	Acta Neuropathologica	Temporal and frontal cortex	IHC	COX-2 and COX-1 co-localized with CD68	↑
Jellinger, 1990	Brain iron and ferritin in Parkinson's and Alzheimer's diseases	Journal of Neural Transmission - Parkinsons Disease & Dementia Section	Substantia nigra,	IHC	Ferritin	↑, Numerous reactive microglia in AD associated with plaques, not in control
Liu, 2005	LPS receptor (CD14): A receptor for phagocytosis of Alzheimer's amyloid peptide	Brain	Hippocampus, occipital cortex, frontal cortex	IHC	CD14+ microglia	↑

Lopez-Gonzalez, 2015	Neuroinflammatory signals in Alzheimer disease and APP/PS1 transgenic mice: correlations with plaques, tangles, and oligomeric species.	Journal of Neuropathology & Experimental Neurology. 74(4):319-44, 2015 Apr	Frontal cortex area 8	IHC	Iba1	⬆ number and size of microglia in all stages of AD, more hypertrophic and round microglia at later stages
McGeer, 1989	Immune system response in Alzheimer's disease	Canadian Journal of Neurological Sciences	Temporal cortex	IHC	HLA-DR	↑
McGeer, 1993	Microglia in degenerative neurological disease	Glia	Temporal cortex	IHC	CD45, HLA-DR-DP-DQ, CD11b, CD11c, FcγRI, FcγRII	↑
Meadowcroft, 2015	Cortical iron regulation and inflammatory response in Alzheimer's disease and APPSWE/PS1ΔE9 mice: a histological perspective	Frontiers in Neuroscience. 9 (JUL) (no pagination), 2015. Article Number: 00255. Date of Publication: 2015.	Entorhinal cortex	IHC	Iba1	↔ total staining, AD has more clustering
Minnasch, 2003	Demonstration of puromycin-sensitive alanyl aminopeptidase in Alzheimer disease brain	Legal Medicine	Cortical and hippocampal tissue	IHC	Puromycin-sensitive alanyl aminopeptidase	↑ Upregulation of PSA in AD microglia.
Narayan, 2015	Increased acetyl and total histone levels in post-mortem Alzheimer's disease brain	Neurobiology of Disease	inferior temporal gyrus	IHC	HLA	⬆
Perlmutter, 1992	MHC class II-positive microglia in human brain: Association with Alzheimer lesions	Journal of Neuroscience Research	neocortical, hippocampus	IHC	RCA, HLA, LN3	⬆ activated morphology with HLA and LN3, more clusters, less uniform distribution than in controls
R. Bowser and S. Reilly	Expression of FAC1 in activated microglia during Alzheimer's disease	Neuroscience Letters	Midfrontal and temporal cortex	IHC	HLA-DR+FAC1 (DNA binding protein, not microglia specific)	↑HLA-DR in AD vs. control ↑HLA-DR containing with FAC1 In AD vs. control (may indicate activation)

Rogers, 1988	Expression of immune system-associated antigens by cells of the human central nervous system: relationship to the pathology of Alzheimer's disease	Neurobiology of Aging	Cortical and subcortical structures	IHC	HLA-DR	↑HLA-DR in gray matter in AD vs. non AD elderly control . ↔ in HLA-DR in white matter of AD vs. non AD elderly control . ↑HLA-DR aggregates in AD vs. control typically in layers II-V, and appear most concentrated around plaques. HLA-DR clustering is also found in rare plaques of healthy elderly controls.
Rozemuller, 2000	Activated microglial cells and complement factors are unrelated to cortical Lewy bodies	Acta Neuropathologica	Anterior cingulate gyrus	IHC	HLA-1DR (CR3/43, LN3), CD68, RCA-1, ferritin	⬆ Clustering around plaques, activated
Ryu, 2008	A leaky blood-brain barrier, fibrinogen infiltration and microglial reactivity in inflamed Alzheimer's disease brain	Journal of Cellular and Molecular Medicine	Entorhinal cortex	IHC	HLA-DR (CR3/43)	⬆ activated microglia
Sasaki, 1997	Microglial activation in early stages of amyloid beta protein deposition	Acta Neuropathologica	Isocortical area, hippocampus, cerrebellum	IHC	LN3, LN1, LCA CR3/43, KP1, Ki-M1p, 2B11+PD7/26	⬆ microglia of activated morphology
Scott, 1993	Inability to detect beta-amyloid protein precursor mRNA in Alzheimer plaque-associated microglia	Experimental Neurology	Hippocampus, superior and middle temporal gyri, visual cortex, entorhinal cortex, amygdala (mixed)	IHC	LN3	⬆ microglia with activated morphology, associated with amyloid deposits and tau
Streit, 2009	Dystrophic (senescent) rather than activated microglial cells are associated with tau pathology and likely precede neurodegeneration in Alzheimer's disease	Acta Neuropathologica	Temporal lobe	IHC	Iba-1	↑degenerated microglia in AD vs. Control
Su, 1997	Bax protein expression is increased in Alzheimer's brain: correlations with DNA damage, Bcl-2 expression, and brain pathology	Journal of Neuropathology & Experimental Neurology	Hippocampal formation	IHC	Bax and HLA-DR co-stain (apoptotic microglia)	↑ apoptotic microglia

Styren, 1990	Molecular, cellular, and pathologic characterization of HLA-DR immunoreactivity in normal elderly and Alzheimer's disease brain	Experimental Neurology	Hippocampus and superior frontal gyrus	IHC	HLA-DR	↑ microglia associated with plaques, more reactive morphology
Togo, 2000	Expression of CD40 in the brain of Alzheimer's disease and other neurological diseases	Brain Research	Hippocampus and adjacent temporal isocortex	IHC	CD40 + HLA-DR	↑CD40 staining
Togo, 2002	Occurrence of T cells in the brain of Alzheimer's disease and other neurological diseases	Journal of Neuroimmunology	Hippocampus, other cortical areas	IHC	HLA-DR	↑
Tooyama, 1990	Reactive microglia express class I and class II major histocompatibility complex antigens in Alzheimer's disease	Brain Research	Medial temporal cortex including the hippocampus and parahippocampal gyrus	IHC	HLA A, B C (MHC I) HLA-DR (MHCII), LCA	↑ MHC I, MHC II
van Dullin, 2013	Comparison of Histological Techniques to Visualize Iron in Paraffin-embedded Brain Tissue of Patients with Alzheimer's Disease	Journal of Histochemistry and Cytochemistry	Frontal Cortex	IHC (compared three different iron IHC methods to Ferritin IHC)	Ferritin positive microglia (activation or dysfunction)	↑ Iron-positive microglia labelling in AD brains vs. control.
Wiendl, 2005	Expression of the immune-tolerogenic major histocompatibility molecule HLA-G in multiple sclerosis: Implications for CNS immunity	Brain	Not reported	IHC	HLA-G	↑HLA-G in AD vs. control (correlates with MHCII)

Wirths, 2013	Oligomeric pyroglutamate amyloid-beta is present in microglia and a subfraction of vessels in patients with Alzheimer's disease: implications for immunotherapy	Journal of Alzheimer's Disease	gyrus temporalis superior	IHC	9D5 (truncated amyloid) positive microglia --> phagocytic microglia	↑
Wong, 2001	Advanced glycation endproducts co-localize with inducible nitric oxide synthase in Alzheimer's disease	Brain Research	Temporal cortex (BA 22)	IHC	iNOS	⬆ Reactive microglia (expressing iNOS and advanced glycation end-products) in advanced (Braak III-IV) but not early AD (I-II)
Wu, 2005	Apoptotic signals within the basal forebrain cholinergic neurons in Alzheimer's disease	Experimental Neurology	Nucleus basalis of Meynert	IHC	CD68	↑
Xia, 1998	Immunohistochemical study of the beta-chemokine receptors CCR3 and CCR5 and their ligands in normal and Alzheimer's disease brains	American Journal of Pathology	Yemporal cortex, visual cortex, caudate, putamen, cerebellum (mixed)	IHC	CCR3, CCR5 on microglia	⬆ chemokines CCR3 and CCr5 staining intensity on reactive microglia
Yamada, 1994	Immunohistochemistry using antibodies to alpha-interferon and its induced protein, MxA, in Alzheimer's and Parkinson's disease brain tissues	Neuroscience Letters	Parietal cortex	IHC	LCA, αIFN, MxA	⬆
Yamada, 1995	White matter microglia produce membrane-type matrix metalloprotease, an activator of gelatinase A, in human brain tissues	Acta Neuropathologica	Parietal lobe white matter	IHC, in situ hybridization	LCA, matrix metalloprotease	↑ in IHC, ↔ in mRNA
Yamada, 1995	Microglial localization of alpha-interferon receptor in human brain tissues	Neuroscience Letters	Not reported	IHC	alpha-IFN receptor colocalized with LCA	⬆

Yamada, 1995	Selective localization of gelatinase A, an enzyme degrading beta-amyloid protein, in white matter microglia and in Schwann cells	Acta Neuropathologica	Parietal white matter	IHC	LCA	↑
Yamada, 1998	Possible roles of transglutaminases in Alzheimer's disease	Dementia & Geriatric Cognitive Disorders	Parietal lobe and hippocampus	IHC, western blot	LCA	↑parietal cortex, not hippocampus (control cases had staining in hippocampus, AD had none)
Yamada, 1999	Melanotransferrin is produced by senile plaque-associated reactive microglia in Alzheimer's disease	Brain Research	Not reported	IHC, in situ hybridization	Metallotransferrin	↑ in reactive microglia
Yan, 1997	Amyloid-beta peptide-receptor for advanced glycation endproduct interaction elicits neuronal expression of macrophage-colony stimulating factor: a proinflammatory pathway in Alzheimer disease	Proceedings of the National Academy of Sciences of the United States of America	Temporal lobe	IHC	Macrophage colony-stimulating factor colocalized with CD68	↑
Yoshiyama, 2000	Expression of invariant chain and pro-cathepsin L in Alzheimer's brain	Neuroscience Letters	Hippocampal Formation, Entorhinal cortex, and parietal cortex	IHC	HLA-DR, pro-cathepsin L MHCII invariant chain	↑HLA-DR ↑Microglia stained with pro-cathepsin L in AD vs. control . ↑ Microglia stained with MHC II invariant chain in AD vs. control .
Zeineh, 2015	Activated iron-containing microglia in the human hippocampus identified by magnetic resonance imaging in Alzheimer disease	Neurobiology of Aging. 36 (9) (pp 2483-2500), 2015. Date of Publication: 01 Sep 2015.	Subiculum	IHC	Iron containing microglia (CD163)	↑

Supplementary Materials Table 15: Where there are both young and older controls, values are reported for the older (age-matched controls). Results are expressed relative to control unless specified otherwise. Amyloid-β (Aβ), Alzheimer's Disease (AD), Brodmann area (BA), Cluster of differentiation (CD), Colony stimulating factor (CSF), Control (C), Cornu ammonis (CA), Dentate gyrus (DG), Human leulocyte antigen (HLA), Ionized calcium-binding adapter molecule 1

(Iba1), Immunohistochemistry (IHC), Inducible nitric oxide synthase (iNOS), Interferon (IFN), Leukocyte common antigen (LCA), Major histocompatibility complex (MHC), Neurofibrillary tangles (NFT), Polymerase chain reaction based assays (PCR), Triggering receptor expressed on myeloid cells 2 (TREM2)

Appendix 1: Search Protocol

Systematic Search Protocol

Written based on the WHO Review Protocol Template, 2011

1. Title: Markers of neuroinflammation in post-mortem Alzheimer's Disease samples: A systematic review

2. Background: Neuroinflammation is a widely-noted characteristic of Alzheimer's Disease, however, there is great variability in the measures of neuroinflammation used, and it is not clear specifically what markers, if any, are consistently increased in diseased brains.

3. Objective: This review aims to bring together all the research on measures of neuroinflammation in Alzheimer's Disease to identify a pattern of immune response activation in this disease.

4. Review Question (Population Intervention Comparison Outcome)

Population: Neuropathologically confirmed Alzheimer's Disease patients, examined post-mortem Intervention: n/a
Comparison: neuropathologically normal controls,
Outcome: levels of inflammatory markers in the brain

5. Evidence Gathering and Study Selection (list databases, websites and journals which will be searched)
Ovid will be used to query the Medline, Embase and PsychInfo databases using exp (MeSH, EMTREE) terms and title, abstract and keywords search terms specifically designed for each database. Full search terms for each database and results found per database are listed in the Appendix.

Reference searches: Bibliographies of papers deemed eligible for this review will be hand searched to identify any additional eligible references, which will then be screened for title, abstract or full text as appropriate.

6. Eligibility Criteria

The results of these searches will be combined and deduped using (Endnote or CREBP Systematic Reviews Assistant). They will then be screened for title and abstract, and then full text using the following eligibility criteria.

i) Type of study included: Papers published in peer reviewed journals.
ii) Types of participants: Studies that examine the brains of human patients with Alzheimer's Disease post-mortem (after death) will be included. Alzheimer's disease must have been confirmed by neuropathological examination at autopsy. Controls should be neuropathologically normal as confirmed at autopsy.
iii) Types of outcome measures: Measurement of neuroinflammation in the brain at death. These include immune cells and their markers, cytokines and their receptors, chemokines and their receptors, prostaglandins, leukotrienes and the enzymes responsible for their synthesis, immunoglobulins, other immune effector molecules and complement. Measures of neuroinflammation detected by any technique will be included, provided the assessment occurred post-mortem.

7. Exclusion Criteria

Conference proceedings and abstracts will be excluded as they do not provide sufficient information to evaluate the study. Reviews, animal studies, studies not taking place in neuropathologically confirmed Alzheimer's Disease, papers measuring inflammatory markers outside of the brain, PET studies on living subjects and studies not using neuropathologically normal patients as a control will be excluded.

8. Data extraction

Data extracted will include:

- Citation information
- Origin of brain tissue (hospital, brain bank etc.)
- Method of neuropathological characterization of AD cases and controls
- Subject age, sex and ethnicity, pH of brain samples, quality of RNA (if applicable), duration in fixative solution, brain region examined, method of measuring neuroinflammation used and results. The final decision on what to include in the published tables will be made by the systematic review author team based on importance and variability within the

studies (for example, if most studies do not report the RNA quality in their brain samples, this column may be omitted from the final table.

9. Data Synthesis

Narrative synthesis is planned, with inflammatory measures grouped together as appropriate depending on number of papers and commonalities in measurement (for instance, cellular markers of neuroinflammation may be grouped and discussed together). The number of papers returned by this search is expected to be high, and thus results may be published separately based on inflammatory marker grouping. Statistical synthesis is not expected to be possible as there is wide variability in the types of measures (qPCR, microarray, Western blot, immunohistochemistry etc.), types of inflammatory outcomes and brain regions investigated, but will be considered if feasible given the data.

10. Dissemination

A manuscript will be prepared for submission to a peer reviewed journal in the neuroscience field.

APPENDIX 2: Search terms and results

Results of Search October 14th 2015 EMBASE full (kw + exp) – 6699 references in restricted, 14471 in full search

Embase with restrictions October 14th – removes conference abstracts, editorials, conference proceedings and reviews in the ovid search

1. Alzheimer disease/
2. ((((Alzheimer* or ase or mild) adj2 cognitive adj2 impairment) or cognitive) adj2 decline).ti,ab,kw.
3. 1 or 2
4. (Brain* or hippocamp* or encephalon or Blood Brain Barrier or hemato-encephalic barriers or barriers brain-blood or hemato encephalic barrier or barriers hemato-encephalic or barrier hemato-encephalic or hemato-encephalic barrier or truncus cerebrus or truncus cerebri or cerebri truncus or brainstems or cerebrus truncus or Mesencephalon or mesencephalon or mesencephalons or midbrains or midbrain or Cerebral Peduncle or Cerebral Crus or Substantia Nigra or nigras substantia or nigra substantia or substantia nigras or Pars Compacta or Pars Reticulata or Tegmentum Mesencephali or midbrain trigeminal nucleus or nucleus peripeduncular or annulari nucleus or nervi trochlearis nucleus or midbrain tegmentum or mesencephalus tegmentum or tegmental nucleus ventral or mesencephalic tegmentums or midbrain tegmentums or trigeminal nucleus mesencephalic or tegmentums midbrain or trochlearis nucleus nervi or nucleus annularis or trigeminal nucleus midbrain or nucleus annular or mesencephali tegmentum 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Fourth Ventricle or ventricolo quarto or ventricles fourth or ventricle fourth or 4th ventricle or quarto ventricolos or ventricle 4th or ventricles 4th or fourth ventricle or ventricolos quarto or fourth ventricles or 4th ventricles or quarto ventricolo or Lateral Ventricles or lateral ventricle orsubventricular zones or lateral ventricles or ventricle lateral or zone subventricular or ventricles lateral or subventricular zone or zones subventricular or Septum Pellucidum or septum supracommissural or pelusidum septum or septum pellucidum or lucidums septum or supracommissural septum or pellucidum septum or septum pelusidums or septum pelusidum or pelusidums septum or septum lucidums or supracommissural septums or septums supracommissural or lucidum septum or septum lucidum or Third Ventricle or 3rd ventricle or ventricles third or ventricles 3rd or third ventricle or ventricle 3rd or 3rd ventricles or third ventricles or ventricle third or Limbic System or limbic system or system 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5. (hippocampal mossy fibers or mossy fiber hippocampal or Fornix, Brain or hippocampal commissure or hippocampal commissures or commissures dorsal hippocampal or fornix commissures or fornices or brain fimbrias or fornical commissures or fornical commissure or fornix or hippocampal commissures dorsal or commissures hippocampal or fornix-fimbria or hippocampal commissure dorsal or fimbria or fornix fimbria or fimbria of hippocampus or brain fornices or dorsal hippocampal commissure or commissure fornical or commissure dorsal hippocampal or commissure of fornix or commissures fornical or commissure hippocampal or fornix commissure or fimbria-fornix or fimbria fornix or fimbria brain or hippocampus fimbrias or hippocampus fimbria or brain fimbria or Hypothalamus or preoptico-hypothalamic areas or preoptico hypothalamic area or lamina terminalis or hypothalamus or areas preoptico-hypothalamic or area preoptico-hypothalamic or preoptico-hypothalamic area or Hypothalamic Area, Lateral or area hypothalamica laterali or hypothalamica laterali area or hypothalami area lateralis or lateralis area hypothalamica or hypothalamus area lateralis or laterali area hypothalamica or areas lateral hypothalamic or lateralis hypothalami area or lateral hypothalamic areas or accessory nucleus of the ventral horn or lateral tuberal nuclei or tuberal nucleus lateral or lateral hypothalamus or area hypothalamica lateralis or hypothalamus lateral or tuberomammillary nucleus or hypothalamic area lateral or nucleus tuberomammillary or nuclei

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nucleus premammillary or Mammillary Bodies or mammillary bodies ormammillary body or body mammillary or mamillary bodies or body mamillary or bodies mamillary or bodies mammillary or mamillary body or Limbic Lobe or Gyrus Cinguli or gyrus cingular or anterior cingulate gyrus or cingulate gyri posterior or cortex anterior cingulate or posterior cingulate gyrus or cinguli anteriors gyrus or mesial region superior or gyrus cingulate or cingulate cortex anterior or cingulate cortex or superior mesial regions or regions cingulate or cortex posterior cingulate or anterior cingulate cortices or posterior cingulates or cingulate bodies or cingulates anterior or cortices anterior cingulate or posterior cingulate cortices or mesial regions superior or posterior cingulate cortex or regions posterior cingulate or cingulate posterior or posterior cingulate region or region posterior cingulate or body cingulate or cortex cingulate or posterior cingulate regions or cingulate gyrus anterior or 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septum or nucleus septalis laterali or triangularis septus nucleus or lateralis nucleus septi or complex septal nuclear or nucleus striae terminalis or nucleus of stria terminalis or septalis lateralis nucleus or dorsal septal nucleus or nucleus triangularis septus or nucleus lateral septumor nucleus triangularis septi or nucleus lateral septal or septal nucleus triangular or terminalis nucleus striae or septi nucleus lateralis or septi nucleus triangularis or triangular septal nucleus or septus nucleus triangularis or nucleus medial septal or complices septal nuclear or lateralis septus nucleus or medial septum nucleus or lateralis septi nucleus or Substantia Innominata or innominata substantia or substantia innominata or Prosencephalon or prosencephalon or forebrains or forebrain or Diencephalon or diencephalon or interbrain or interbrains or Optic Chiasm or chiasmas optic or optic chiasms or decussation optic or chiasma optic or optic chiasm or optic chiasma or optic decussation or opticums chiasma or optic decussations or chiasma opticum or decussations optic or opticum chiasma or optic chiasmas or chiasma opticums or chiasms optic or chiasm optic or Optic Tract or Subthalamus or subthalamus or fasciculus thalamic or field h nucleus or campi forelus nucleus or fasciculus lenticular or field h1 forel's or campi foreli nucleus or enticular fasciculus or forels field h2 or forel field h2 or thalamicus fasciculus or fasciculus thalamicus or thalamic fasciculus or forelus nucleus campi or nucleus of ansa lenticularis or foreli nucleus campi or nucleus campi forelus or nucleus of field h or forels field h1 or forel's field h2 or field h1 of forel or forel field h1 or Entopeduncular Nucleus or Subthalamic Nucleus or nucleus of luys or luys subthalamic nucleus or corpus luysi or luys body or subthalamic nucleus of luys or subthalamicus nucleus or luys nucleus or nucleus subthalamic or luysi corpus or body of luys or nucleus subthalamicus or subthalamic nucleus or Zona Incerta or Thalamus or thalamencephalon or thalamencephalons or thalamus or Thalamic Nuclei or nuclei thalamic or thalamic nuclei or Anterior Thalamic Nuclei or nucleus anterodorsal thalamic or anterior nuclear group or nucleus anteromedial thalamic or nucleus anteroventral thalamic or thalamus anterior nucleus or anterior thalamic nucleus or nucleus anteroventral or anteroventral nucleus or thalamic nucleus anterodorsal or nuclei anterior thalamic or thalamic nuclei anterior or anteromedial nucleus or anteromedial thalamic nucleusor thalamus anterior or nucleus anteromedial or anterodorsal nucleus or anterior thalamus or anterior thalamic nuclei or anterodorsal thalamic nucleus or nucleus anterodorsal or thalamic nucleus anteroventral or Geniculate Bodies or nucleus geniculate or medial geniculate nucleus or geniculate complex medial or geniculatum mediales corpus or bodies geniculate or nucleus lateral geniculate or mediales corpus geniculatum or geniculate bodies medial or mediale corpus geniculatum or geniculate body or

geniculatum mediale corpus or geniculate nucleus lateral or geniculate bodies or geniculate bodies lateral or metathalamus or corpus geniculatum mediale or geniculate body lateral or complex medial geniculate or nucleus geniculatus lateralis pars dorsalis or geniculate body medial or geniculate complices medial or geniculate nucleus or complices medial geniculate or medial geniculate body or medial geniculate bodies or geniculate nucleus medial or Intralaminar Thalamic Nuclei or nucleus paracentrali or centrum medianum or paracentrali nucleus or centromedian thalamic nucleus or central lateral nucleus or thalamic nucleus parafascicular or central lateral thalamic nucleus or parafascicular thalamic nucleus or thalamic nucleus intralaminar or nucleus central dorsal or parafascicular nucleus of the thalamus or centromedian nucleus or intralaminar nuclei rostral or intralaminar nuclear group or thalamic nucleus centromedian or parafascicularis nucleus or nucleus central lateral or thalamic nuclei intralaminar or central dorsal thalamic nucleus or interlaminar nuclei of thalamus or rostral intralaminar nuclei or thalamus nucleus parafascicularis or centrum medianums nucleus or medianum centrum or thalamic nucleus paracentral or thalamus reticulate nucleus or nucleus paracentral or nucleus central medial or paracentral thalamic nucleus or median nucleus centre or nuclei intralaminar thalamic or nuclei rostral intralaminar or central medial nucleus or nucleus centrum medianums or nucleus centre median or medianum nucleus centrum or nucleus paracentral thalamic or nucleus centromedian thalamic or nucleus parafascicularis thalamus or nucleus intralaminar thalamic or nucleus centrum medianum or nucleus parafascicularis thalami or parafascicularis thalami nucleus or parafascicularis thalamus nucleus or reticulate nuclei of thalamus or nucleus parafasciculari or centrum medianums or centrum medianum nucleus or paracentralis nucleus or lateral nucleus central or parafascicular nucleus or central medial thalamic nucleus or nucleus centromedian or Lateral Thalamic Nuclei or medial pulvinar nucleus or Pulvinar or anterior pulvinar nucleus).ab,kw,ti.

6. (anterior pulvinar nucleus or pulvinar nucleus or nucleus anterior pulvinar or lateral pulvinar nucleus or pulvinar nucleus oral or oral pulvinar nucleus or pulvinar nucleus inferior or pulvinars or pulvinari nucleus or nucleus oral pulvinar or nucleus pulvinar or pulvinar thalami or nucleus pulvinari or nucleus lateral pulvinar or thalami pulvinar or nucleus inferior pulvinar or pulvinaris nucleus or nucleus pulvinaris or pulvinar thalamus or inferior pulvinar nucleus or pulvinar nucleus lateral or Mediodorsal Thalamic Nucleus or medialis dorsali nucleus or medial dorsal thalamic nucleus or mediodorsal nucleus or dorsomedialis thalamus nucleus or nucleus dorsomedial thalamic or nuclei medial thalamic or dorsali nucleus medialis or nucleus mediodorsal or nucleus dorsomedialis thalamus or nucleus medialis dorsali or nucleus mediodorsal thalamic or thalami nucleus dorsomedialis or thalamus nucleus dorsomedialis or thalamic nucleus medial or dorsomedialis thalami nucleus or thalamic nuclei medial or nucleus medial thalamic or mediodorsal thalamic nucleus or nucleus dorsomedial or nucleus medialis dorsalis or thalamic nucleus mediodorsal or dorsal medial nucleus or medialis dorsalis nucleus or nucleus dorsomedialis thalami or medial thalamic nucleus or Midline Thalamic Nuclei or parataenial nucleus or nucleus reunien or rhomboid nucleusor nucleus subfascular or nuclear group midline or paratenial nucleus or rhomboidal nucleus or rhomboid thalamic nucleus or nucleus rhomboid thalamic or reuniens nucleus or subfascular nucleus or thalamus nucleus reuniens or thalami nucleus reuniens or nucleus paraventricular thalamic or reunien nucleus or reuniens thalami nucleusor paraventricular nucleus of thalamus or paraventricular thalamic nucleus or midline thalamic nucleus or thalamic nuclei midline or paratenial thalamic nucleus or thalamic nucleus rhomboid or periventricular nuclei of thalamus or thalamic nucleus reuniens or reuniens thalamus nucleus or thalamus midline nucleus or nucleus paratenial or thalamus paraventricular nucleus or midline thalamic nuclei or thalamic nucleus subfascular or nucleus reuniens thalamus or thalamic nucleus paratenial or nucleus reuniens or nucleus rhomboid or thalamic nucleus paraventricular or midline nuclear group or Posterior Thalamic Nuclei or supergeniculate nucleus or posterior nuclear complicesor nucleus supergeniculateor posterior thalamic nuclei or suprageniculate thalamic nucleus or submedial nucleus or limitans nucleus or thalamic nuclei posterior or nucleus limitan or thalamic nucleus suprageniculate or nucleus submedial or nuclear complices posterior or complices posterior nuclear or posterior nucleus of thalamus or nucleus limitans or nucleus suprageniculate thalamic or posterior thalamic nucleus or posterior thalamic nuclear group or posterior nuclear complex or nuclear complex posterior or thalamus posterior nucleus or Ventral Thalamic Nuclei or posterior nucleus ventral or ventrolateral thalamic nucleus or intermedius nucleus ventralis or ventral posterior nucleus or ventralis intermedius nucleus or ventrobasal complex or ventralis posteromediali nucleus or nuclear mass ventral or group ventral nuclear or ventralis posterolateralis nucleus or nucleus ventral anterior or ventral nuclear groups or laterali nucleus ventralis or nucleus ventral posterolateral or ventralis posterior nucleus or masses ventral nuclear or nucleus ventralis posterolaterali or ventral lateral nucleus or nucleus ventralis intermedius or ventral anterior thalamic nucleus or thalamic nucleus ventral or posterolaterali nucleus ventralis or ventral posteromedial thalamic nucleus or nucleus ventrolateralis thalamus or ventrobasal complices or nucleus ventralis posteromedialis or nuclei ventral thalamic or nucleus ventrolateralis thalami or mass ventral nuclearor ventrolateralis thalami nucleus or ventrolateralis thalamus nucleus or posterolateral nucleus ventral or nuclear group ventral or arcuate nucleus 3 or nucleus ventralis posteriors or ventral posterior thalamic nucleus or ventral posterior medial nucleus or ventral posteroinferior nucleus or posteroinferior nucleus ventral or posteriors nucleus ventralis or arcuate nucleus-3 or thalamus nucleus ventrolateralis or nucleus ventralis or posteromediali or complex ventrobasal or ventral lateral thalamic nucleus or ventral thalamic nuclei or ventral lateral thalamic nuclei or ventral posteromedial nucleus or posteromedialis nucleus ventralis or ventral anterior nucleus or ventral posterolateral nucleus or nuclear masses ventral or ventral posterior inferior thalamic nucleus or thalamic nucleus ventrolateral or ventral nuclear group or thalamus ventrolateral or thalami nucleus ventrolateralis

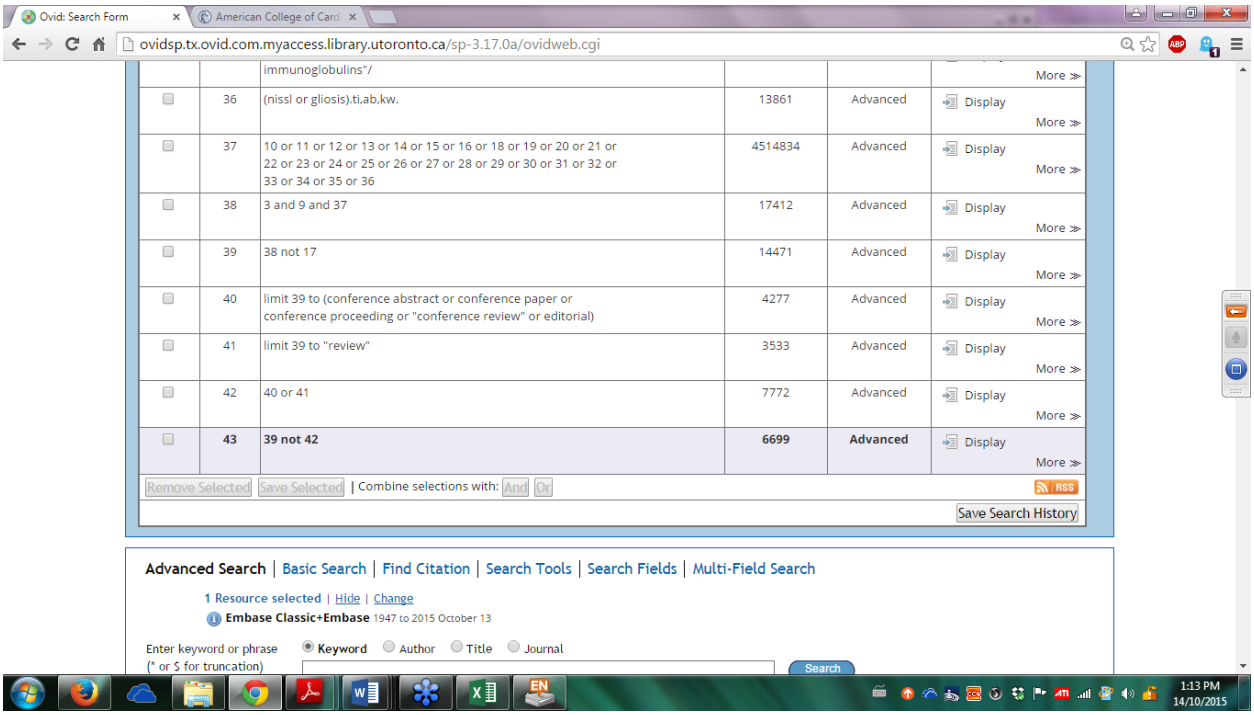
or posteromediali nucleus ventralis or posterolateralis nucleus ventralis or posterior nucleus ventralis or nucleus ventral posteromedial or nucleus ventralis laterali or ventral posterolateral thalamic nucleus or nucleus ventral thalamic or ventralis lateralis nucleus or ventral nuclear mass or ventralis posteriors nucleus or ventralis laterali nucleus or nucleus ventral posterior or ventral thalamic nucleus or ventrolateral thalamus or nucleus ventralis lateralis or Telencephalon or telencephalon or endbrain or endbrains or Cerebrum or cerebrum or cerebral hemisphere left or cerebral hemisphere right or cerebral hemispheres or right cerebral hemisphere or cerebral hemisphere or left cerebral hemisphere or Basal Ganglia or ganglia basal or nuclei basal or basal ganglia or ganglion basal or basal nuclei or claustrum or Corpus Striatum or lenticular nucleus or nucleus lentiform or lentiformis nucleus or lentiform nucleus or corpus striatum or nucleus lenticular or nucleus lentiformis or lentiform nuclei or striatum corpus or nuclei lentiform or Globus Pallidus or pallidum or paleostriatum or globus pallidus or pallidums or Neostriatum or Caudate Nucleus or nucleus caudatus or caudate nucleus or caudatus nucleusor nucleus caudate or caudatus or High Vocal Center or Putamen or putamens or nucleus putamens or putamens nucleus or putamen nucleus or nucleus putamen or putamen or Ventral Striatum or Nucleus Accumbens or nucleus accumbens or accumbens septus nucleus or accumbens septi nucleusor nucleus accumbens septi or septi nucleus accumbens or accumbens nucleus or septus nucleus accumbens or nucleus accumbens septus or Olfactory Tubercleor Islands of Calleja or Basal Nucleus of Meynert or nucleus basalis of meynert or meynert basal nucleus or nucleus basalis magnocellularis or basal nucleus of meynert or meynert nucleus basalisor Cerebral Cortex or plates cortical or insular cortex or cerebral cortices or archipalliums or paleocortex or allocortices or periallocortices or plate cortical or cerebri cortex or cortices cerebral or paleocortices or cortices insular or insular cortices or cortex insular or periallocortex or archipallium or cortical plates or cortex cerebral or cortex cerebri or reil insula or cortex cerebrus or cortical plate or Frontal Lobe or gyrus anterior centralor central gyrus anterior or lobe frontalor frontal lobeor cortex frontal or gyrus precentralis or frontal eye fieldor supplementary eye field or gyrus precentrali or frontali lobusor precentrali gyrus or frontal lobes or frontal cortex or field supplementary eye or lobes frontal or eye field supplementary or lobus frontali or supplementary eye fields or frontalis lobus or gyrus precentral or eye fields supplementary or eye fields frontal or anterior central gyrus or fields frontal eye or lobus frontalis or Motor Cortex or motor area or primary motor cortex or motor area precentral or strip motor or somatomotor areas or strips motor or motor cortices primary or premotor areas or motor area secondary or cortex precentral motor or motor area somatic or supplementary motor areas or area primary motoror area premotor or secondary motor area or motor cortices secondary or area motor or secondary motor areas or area somatomotor or motor areas or motor cortex secondary or precentral motor areas or cortices secondary motor or area supplementary motor or motor areas supplementary or area precentral motor or cortices primary motor or precentral motor cortices or areas somatic motor or area somatic motor or areas motor or motor cortex precentral or motor areas precentral or motor strips or cortex primary motor or somatomotor area or premotor area or precentral motor cortex or primary motor area or somatic motor area or motor areas somatic or areas premotor or areas somatomotor or areas precentral motor or areas supplementary motor or motor cortex primary or cortex secondary or motor primary motor cortices or motor cortex or motor cortices precentral or motor area supplementary or cortices precentral motor or somatic motor areas or cortex motor or areas secondary motor or Prefrontal Cortex or orbital gyrus).ab,kw,ti.

7. (gyrus orbital or sulcus olfactoryor convolutions superior frontal or orbitofrontal cortices lateral or gyrus frontalis superior or rectal gyrusor cortices ventromedial prefrontal or orbital cortices or cortex orbital or prefrontal cortices ventromedial or inferiors gyrus frontalis or orbital gyri or orbital area or convolution superior frontal or frontalis superiors gyrus or inferior frontal gyrus or gyri orbitofrontal or orbitofrontal regions or frontalis inferiors gyrus or frontal sulcus or prefrontal cortex ventromedial or straight gyrus or cortex lateral orbitofrontal or gyrus frontalis inferior or sulci olfactory or orbital areas or orbitofrontal gyri or area orbital or orbitofrontal region or cortices lateral orbitofrontal or lateral orbitofrontal cortex or superior frontal convolution or cortex orbitofrontal or medial frontal gyrus or gyrus orbitofrontal or gyrus straight or superior frontal gyrus or frontal gyrus medial or ventromedial prefrontal cortex or gyrus rectal or subcallosal area or olfactory sulcus or prefrontal cortex or superior frontal convolutions or sulcus frontal or olfactory sulci or region orbitofrontal or superiors gyrus frontalis or superior gyrus frontalis or gyrus superior frontal ororbitofrontal cortex or frontal gyrus inferior or gyrus frontalis inferiors or cortex ventromedial prefrontal or marginal gyrus or rectus gyrus or orbital cortex or gyrus medial frontal or orbitali gyrus or orbitofrontal gyrus or inferior gyrus frontalis or frontal gyrus superior or gyri orbital or areas orbital or cortex prefrontal or cortices orbital or gyrus rectus or frontalis superior gyrus or lateral orbitofrontal cortices or orbitofrontal cortices or gyrus frontalis superiors or orbitofrontal cortex lateral or gyrus marginal or Broca Area or Neocortex or neocortical molecular layer or neocortices cerebral or isocortex or cerebral neocortices or neopalliumsor corticalis substantiaor multiform layer neocortical or neocortical multiform layer or layer neocortical molecular or cortices neopallial or neopallial cortex or neocortical internal pyramidal layer or molecular layer neocortical or neopallial corticesor cortex neopallial or layers neocortical multiform or neocortex cerebralor molecular layers neocortical or neocortical internal granular layer or neocortical multiform layers or cerebral neocortex or neocortical external pyramidal layer or neocortical molecular layers or isocortices or external granular layer or substantia corticali or corticali substantia or layer neocortical multiformor multiform layers neocortical or Occipital Lobe or occipital cortex or cuneus or gyrus annectant or sulcus lunate or gyrus lingual or gyrus occipitalor calcarine fissures or regions occipital or occipitotemporal gyrus medial or sulcus calcarine or lunate sulcus or occipital lobe or gyrus medial

occipitotemporal or cuneate lobule or region occipital or fissures calcarine or calcarinus sulcus or sulcus calcarinus or lobe occipital or lobes occipital or occipital region or gyrus lingualis or occipital gyrus or annectant gyrus or occipital regions or lobules cuneate or occipital sulcus or cortices occipital or calcarine sulcus or fissure calcarine or lingual gyrus or lobule cuneate or cortex cuneus or linguali gyrus or Visual Cortex or primary visual cortices or visual cortex primaries or primaries visual cortex or cortices extrastriate or visual cortices primary or extrastriate cortices or cortex primaries visual or cortex primary visual or striate cortex or cortices primary visual or visual cortex primary or visual cortex or cortex striate or cortex extrastriate or cortex visual or extrastriate cortex or primary visual cortex or Olfactory Cortex or Basal Forebrain or Piriform Cortex or sulcus intraparietal or regions parietal or lobes parietal or paracentral lobules posterior or gyrus supramarginal or precuneus cortices or parietal cortex or gyrus angulari or praecuneus or gyrus angularis or gyrus supramarginali or parietal regions or gyrus prelunate or lobules parietal or lobe parietal or parietal cortices posterior or gyrus supramarginalis or angulari gyrus or supramarginali gyrus or marginal sulcus or posterior parietal cortex or prelunate gyrus or posterior parietal cortices or intraparietal sulcus or angularis gyrus or region parietal or parietal lobules or precuneus or cortex parietal or gyrus angular or precuneus cortex or lobule parietal or parietal lobule or cortices precuneus or posterior paracentral lobule or lobules posterior paracentral or sulcus marginal or posterior paracentral lobules or Parietal Lobe or sulcus intraparietal or regions parietal or lobes parietal or paracentral lobules posterior or gyrus supramarginal or precuneus cortices or parietal cortex or gyrus angulari or praecuneus or gyrus angularis or gyrus supramarginali or parietal regions or gyrus prelunate or lobules parietal or lobe parietal or parietal cortices posterior or gyrus supramarginalis or angulari gyrus or supramarginali gyrus or marginal sulcus or posterior parietal cortex or prelunate gyrus or posterior parietal cortices or intraparietal sulcus or angularis gyrus or region parietal or parietal lobules or precuneus or cortex parietal or gyrus angular or precuneus cortex or lobule parietal or parietal lobule or cortices precuneus or posterior paracentral lobule or lobules posterior paracentral or sulcus marginal or posterior paracentral lobules or omatosensory Cortex or postcentral gyrus or somatosensory cortices primary or somatosensory cortex primary or cortex anterior parietal or cortices anterior parietal or cortices primary somatosensory or anterior parietal cortices or cortex secondary sensory or areas primary somatosensory or primary somatosensory cortices or cortex si or gyrus post central or secondary somatosensory areas or post central gyrus or parietal cortices anterior or gyrus postcentrali or secondary somatosensory cortex or somatosensory cortex or areas secondary somatosensory or somatosensory cortex secondary or area primary somatosensory or postcentralis gyrus or cortices secondary sensory or secondary sensory cortex or primary somatosensory cortex or somatosensory areas secondary or si cortex or primary somatosensory areas or secondary somatosensory cortices or gyrus postcentralis or area secondary somatosensory or primary somatosensory area or cortex primary somatosensory or secondary somatosensory area or secondary sensory cortices or cortices secondary somatosensory or primary somatic sensory area or postcentrali gyrus or gyrus postcentral or Wernicke Area or Sensorimotor Cortex or Auditory Cortex or gyrus transverse temporal or auditory areas temporal or temporal auditory areas or areas auditory or cortex primary auditory or transverse temporal gyrus or cortex auditory or auditory areas or transverse temporal gyri or convolutions heschl's or auditory cortex or auditory area or auditory cortex primary or auditory cortices primary or areas temporal auditory or area auditory or gyri transverse temporal or primary auditory cortices or heschl gyri or heschl convolutions or temporal gyri transverse or auditory area temporal or temporal auditory area or heschls gyri or primary auditory cortex or Temporal Lobe or temporal operculums or superior temporal gyrus or occipito-temporal gyrus lateral or gyrus fusiform or gyrus lateral occipito-temporal or gyrus temporalis superior or occipitotemporal gyrus or horns temporal or inferior horn of lateral ventricle or temporal sulcus or regions temporal or operculums temporal or cortex temporal or lobes temporal or planum polares or temporalis superior gyrus or gyrus superior temporal or horn temporal or lobe temporal or temporal horn or temporal cortices or gyrus lateral occipitotemporal or temporalis superiors gyrus or region temporal or fusiformi gyrus or temporal region or temporal horns or lateral occipito-temporal gyrus or temporal cortex or gyrus temporal or temporal operculum or temporal regions or operculum temporal or cortices temporal or temporal horn of the lateral ventricle or polare planum or fusiformis gyrus or sulcus temporal or polares planum or planum polare or temporal lobe or Diagonal Band of Broca or diagonal band of broca or broca diagonal band or External Capsule or olfactory tracts or olfactory tract lateral or main olfactory bulbs or bulbs main olfactory or bulb olfactory or glomerulus olfactory or lateral olfactory tracts or olfactory tract or bulb main olfactory or olfactory bulbs or olfactory bulb main or accessory olfactory bulb or accessory olfactory bulbs or tracts olfactory or bulbs accessory olfactory or olfactory glomerulus or bulbs olfactory or olfactory bulb accessory or tract olfactory or bulb accessory olfactory or tract lateral olfactory or olfactorius bulbus or olfactory bulb or lateral olfactory tract or Olfactory Bulb or olfactory tracts or olfactory tract lateral or main olfactory bulbs or bulbs main olfactory or bulb olfactory or glomerulus olfactory or lateral olfactory tracts or olfactory tract or bulb main olfactory or olfactory bulbs or olfactory bulb main or accessory olfactory bulb or accessory olfactory bulbs or tracts olfactory or bulbs accessory olfactory or olfactory glomerulus or bulbs olfactory or olfactory bulb accessory or tract olfactory or bulb accessory olfactory or tract lateral olfactory or olfactorius bulbus or olfactory bulb or lateral olfactory tract or Telencephalic Commissures or Anterior Cerebellar Commissure or Corpus Callosum or corpus callosums or commissures neocortical or neocortical commissures or corpus callosum or callosums corpus or interhemispheric commissure or interhemispheric commissures or neocortical commissure or callosum corpus or commissures interhemispheric or

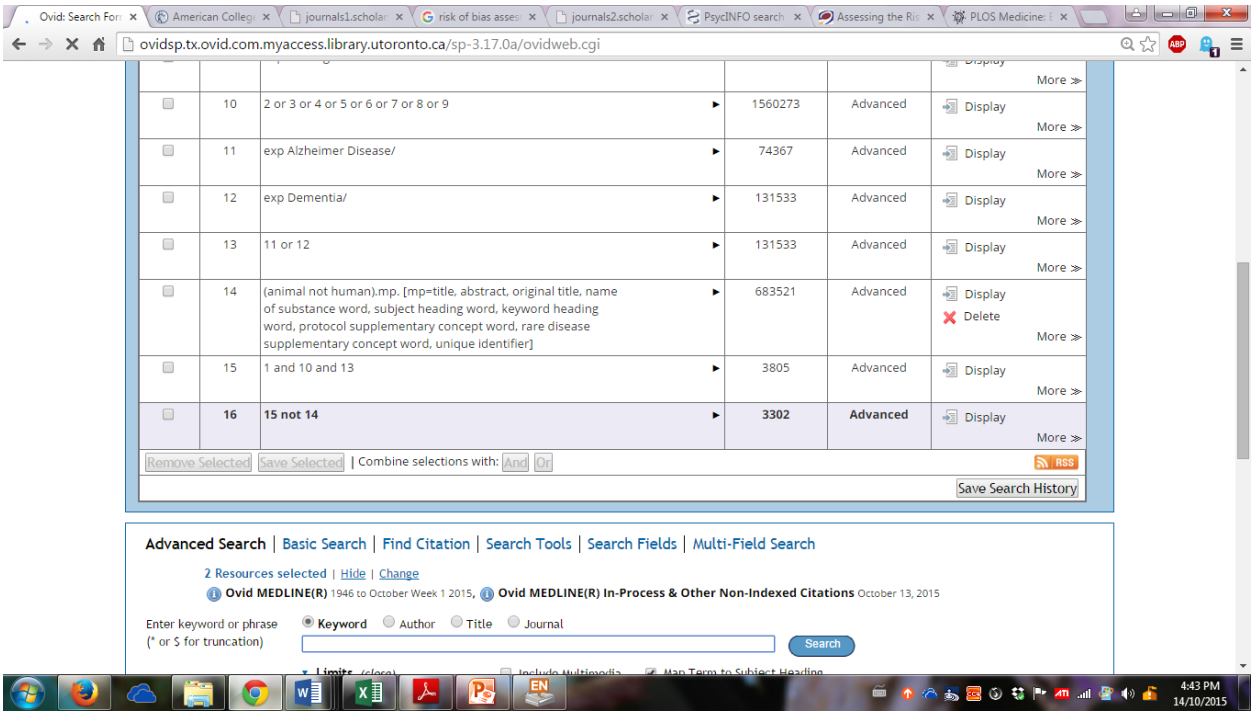
commissure interhemispheric or commissure neocortical or Internal Capsule or internal capsules or interna capsula or capsules internal or capsule internal or capsula internas or internal capsule or capsula interna or internas capsula or Myelencephalon).ab,kw,ti.
8. exp brain/
9. 4 or 5 or 6 or 7 or 8
10. exp nervous system inflammation/
11. exp glia/
12. exp astrocyte/
13. exp leukocyte/
14. exp antigen presenting cell/
15. exp leukocyte antigen/
16. (Inflammat* or Eicosanoid* or Leukotriene* or lta4 or lta 4 or ltb4 or ltb 4 or 512-hete or 512 dihete or SRS-A or ltc4 or ltd4 or lte4 or Prostaglandin* or prostanoid* or pgg or pgh2 or pga or pgb or pgd or pgd2 or pge or pge2 or pgf or pgf2 or Alprostadil or Dinoprostone or pgf* or Dinoprost or 6-Ketoprostaglandin F1 alpha or Epoprostenol or prostacyclin* or Thromboxane* or Histamine* or eplene or Kinin* or Bradykinin* or Kallidin or Kininogen* or Tachykinin* or prekinins or thiostatin or prokinins or Eledoisin or Kassinin or Neurokinin* or Physalaemin or Substance P or Urotensin* or thrombocyte aggregating activity or paf acether or factor platelet activating or 1-alkyl-2-acetyl-sn-glycerophosphocholine or platelet aggregation enhancing factor or 1 alkyl 2 acetyl sn glycerophosphocholine or platelet activating factor or acetyl glyceryl ether phosphorylcholine or platelet activating substance or agepc or paf-acether or platelet-activating substance or platelet aggregating factor or phosphorylcholine acetyl glyceryl ether or aggregating factor platelet or Platelet Activating Factor or Chemokine* or cytokine* or intercrine* or beta-Thromboglobulin or CCL1 or CCL3 or CCL4 or CCL5 or CCL11 or CCL17 or CCL19 or CCL20 or CCL21 or CCL22 or CCL24 or CCL27 or Monocyte Chemoattractant Protein* or CCL2 or CCL7 or CCL8 or CXCL1 or CXCL2 or CXCL5 or CXCL6 or CXCL9 or CXCL10 or CXCL11 or CXCL12 or CXCL13 or Interleukin* or Platelet Factor 4 or CX3C or CX3CL1 or Macrophage Inflammatory Proteins or CCL3 or CCL19 or CCL20 or CXCL2 or mip 2 or mip2alpha or chemokine mip-2 or mip 2alpha or inflammatory protein-2alpha macrophage or ldncf-2 or mip-3-alpha or interferon* or ifn or lymphokine* or lymphocyte mediators or monokine* or tumor necrosis factor* or tnf or Oncostatin M or Leukemia Inhibitory Factor or Transforming Growth Factor or tgf or tgfbeta or Astrocyte* or astroglia* or glia* or microglia or epithelioid cell* or Macrophage* or monocyte* or histiocyte* or neutrophil* or cells le or le cell or leukocyte polymorphonuclear or Antibody* producing cell* or antibody* secreting cell* or immunoglobulin* producing cell* or immunoglobulin* secreting cell* or bursa-dependent or b-cell or bcell or granulocyte or Antigen presenting cell* or dendritic cell* or interdigitating cell* or veiled cell* or Lymphocyte* or leukocyte* or lymphoid cell* or t-cell* or t-lymphocyte* or t cell* or t lymphocyte* or th1 cell* or th2 cell* or th17 cell* or treg or tregs or th3 cell* or tr1 cell* or t8 cell* or tc2 cell* or tc1 cell* or lympholytic cell* or nkt cell* or inkt cell* or t helper or t cytotoxic or t regulatory or epidermal cell derived thymocyte activating factor or il-1 or il1 or il-2 or il2 or ru49637 or ro-23-6019 or ru 49637 or ro236019 or ru-49637 or ro 236019 or ro-236019 or thymocyte stimulating factor or tcgf or ro 23 6019 or eosinophil-mast cell growth-factor or colony-stimulating factor multipotential or erythrocyte burst-promoting factor or burst-promoting factor erythrocyte or hematopoietin 2 or colony stimulating factor mast cell or eosinophil mast cell growth factor or p cell stimulating factor or colony-stimulating factor 2 alpha or p-cell stimulating factor or mast-cell colony-stimulating factor or multipotential colony stimulating factor or erythrocyte burst promoting factor or il-3 or il3 or colony-stimulating factor mast-cell or multipotential colony-stimulating factor or burst promoting factor erythrocyte or colony stimulating factor multipotential or mast cell growth factor 2 or binetrakin or mcgf-2 or bcgf-1 or il-4 or il4 or b-cell growth factor-1 or bsf-1 or il 5 or il5 or t-cell replacing factor or differentiation factor eosinophil or eosinophil differentiation factor or bcgf-ii or growth factor hybridoma or il6 or il 6 or hybridoma growth factor or growth factor plasmacytoma or plasmacytoma growth factor or bsf-2 or hepatocyte-stimulating factor or mgi-2 or myeloid differentiation inducing protein or differentiation-inducing protein myeloid or ifn-beta 2 or myeloid differentiation-inducing protein or lymphopoietin-1 or lymphopoietin 1 or il7 or il-7 or il8 or il 8 or cxcl8 or amcf-I or il9 or il 9 or il10 or il 10 or csif-10 or il 11 or il11 or inhibitory factor adipogenesis or adipogenesis inhibitory factor or factor adipogenesis inhibitory or il12 or il 12 or edodekin alfa or il13 or il 13 or il 15 or il15 or il16 or il 16 or lcf factor or il 17 or il17 or il 17e or il 17f or il 17c or il 17a or il 17b or il18 or il-18 or il23 or il 23 or il27 or il 27 or il-17d or CD 11 or CD11 or CD 11b or CD11b or CD68 or CD40 or CD45 or Ox-42 or OX42 or ed-1 or ed1 or cd200 or cd 200 or Iba 1 or Iba1 or ly6g or cd3 or mpo or mcp1 or mcp-1 or ccr2 or arg1 or arg 1 or mhc or major histocompatibility complex or aldh1 or aldh 1 or hla dr or cd20 or nf kb or nfkb or calpronectin or enkaphalin or COX or COX2 or COX1 or cPLA2 or iPLA2 or sPLA2 or txa2 or tx a2 or txb2 or tx b2 or lta4 or lt a4 or ltb4 or lt b4 or resolving or protectin or maresin or 6 ketoPGF or 6ketoPGF or lipoxygenase or LOX or 12 lox or 12lox or 15 lox or 15lox or 5 lox or 5lox or COX or COX2 or COX1 or cPLA2 or iPLA2 or sPLA2 or txa2 or tx a2 or txb2 or tx b2 or lta4 or lt a4 or ltb4 or lt b4 or resolving or protectin or maresin or 6-ketoPGF or 6ketoPGF or lipoxygenase or LOX or 12-lox or 12lox or 15-lox or 15lox or 5-lox or 5lox or iNOS or RELB or mPGES or tnf-a or tnfa or il1a or il1 a or il1b or il1 b or s100* or kynuren*).ab,kw,ti.

17. (animal not human).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
18. exp neurogenic inflammation/
19. exp cytokine/
20. exp chemokine/
21. exp autacoid/
22. exp lymphocyte/
23. exp lymphocyte/
24. exp mast cell/
25. exp complement/
26. exp complement/
27. exp complement system/
28. exp prostaglandin synthase/
29. exp prostanoid/ or "prostaglandins,thromboxanes and leukotrienes"/
30. exp icosanoid/
31. exp cytosolic phospholipase A2/
32. exp calcium independent phospholipase A2/
33. exp histamine/
34. exp arachidonate 15 lipoxygenase/ or exp arachidonate 12 lipoxygenase/ or exp lipoxygenase/ or exp arachidonate 5 lipoxygenase/
35. immunoglobulin/ or exp "antibodies,antisera and immunoglobulins"/
36. (nissl or gliosis).ti,ab,kw.
37. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36
38. 3 and 9 and 37
39. 38 not 17
40. limit 39 to (conference abstract or conference paper or conference proceeding or "conference review" or editorial)
41. limit 39 to "review"
42. 40 or 41
43. 39 not 42



Results of Search October 14th 2014 Medline EXP - 3302

1. exp Brain/
2. exp Inflammation Mediators/
3. exp Neuroglia/
4. exp Leukocytes/
5. exp Antibody-Producing Cells/
6. exp Antigen-Presenting Cells/
7. exp Cytokines/
8. exp Antigens, CD/
9. exp Neurogenic Inflammation/
10. 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
11. exp Alzheimer Disease/
12. exp Dementia/
13. 11 or 12
14. (animal not human).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
15. 1 and 10 and 13
16. 15 not 14



Medline Search KW Oct 14th 2015 – 9403 results

1. "dement*".ab,kw,ti.
2. "amentia*".ab,kw,ti.
3. (nissl or gliosis or Inflammat* or Eicosanoid* or Leukotriene* or lta4 or lta 4 or ltb4 or ltb 4 or 512-hete or 512 dihete or SRS-A or ltc4 or ltd4 or lte4 or Prostaglandin* or prostanoid* or pgg or pgh2 or pga or pgb or pgd or pgd2 or pge or pge2 or pgf or pgf2 or Alprostadil or Dinoprostone or pgf* or Dinoprost or 6-Ketoprostaglandin F1 alpha or Epoprostenol or prostacyclin* or Thromboxane* or Histamine* or eplene or Kinin* or Bradykinin* or Kallidin or Kininogen* or Tachykinin* or prekinins or thiostatin or prokinins or Eledoisin or Kassinin or Neurokinin* or Physalaemin or Substance P or Urotensin* or thrombocyte aggregating activity or paf acether or factor platelet activating or 1-alkyl-2-acetyl-sn-glycerophosphocholine or platelet aggregation enhancing factor or 1 alkyl 2 acetyl sn glycerophosphocholine or platelet activating factor or acetyl glyceryl ether phosphorylcholine or platelet activating substance or agepc or paf-acether or platelet-activating substance or platelet aggregating factor or phosphorylcholine acetyl glyceryl ether or aggregating factor platelet or Platelet Activating Factor or Chemokine* or cytokine* or intercrine* or beta-Thromboglobulin or CCL1 or CCL3 or CCL4 or CCL5 or CCL11 or CCL17 or CCL19 or CCL20 or CCL21 or CCL22 or CCL24 or CCL27 or Monocyte Chemoattractant Protein* or CCL2 or CCL7 or CCL8 or CXCL1 or CXCL2 or CXCL5 or CXCL6 or CXCL9 or CXCL10 or CXCL11 or CXCL12 or CXCL13 or Interleukin* or Platelet Factor 4 or CX3C or CX3CL1 or Macrophage Inflammatory Proteins or CCL3 or CCL19 or CCL20 or CXCL2 or mip 2 or mip2alpha or chemokine mip-2 or mip 2alpha or inflammatory protein-2alpha macrophage or ldncf-2 or mip-3-alpha or interferon* or ifn or lymphokine* or lymphocyte mediators or monokine* or tumor necrosis factor* or tnf or Oncostatin M or Leukemia Inhibitory Factor or Transforming Growth Factor or tgf or tgfbeta or Astrocyte* or astroglia* or glia* or microglia or epithelioid cell* or Macrophage* or monocyte* or histiocyte* or neutrophil* or cells le or le cell or leukocyte polymorphonuclear or Antibody* producing cell* or antibody* secreting cell* or immunoglobulin* producing cell* or immunoglobulin* secreting cell* or bursa-dependent or b-cell or bcell or granulocyte or Antigen presenting cell* or dendritic cell* or interdigitating cell* or veiled cell* or Lymphocyte* or leukocyte* or lymphoid cell* or t-cell* or t-lymphocyte* or t cell* or t lymphocyte* or th1 cell* or th2 cell* or th17 cell* or treg or tregs or th3 cell* or tr1 cell* or t8 cell* or tc2 cell* or tc1 cell* or lympholytic cell* or nkt cell* or inkt cell* or t helper or t cytotoxic or t regulatory or epidermal cell derived thymocyte activating factor or il-1 or il1 or il-2 or il2 or ru49637 or ro-23-6019 or ru 49637 or ro236019 or ru-49637 or ro 236019 or ro-236019 or thymocyte stimulating factor or tcgf or ro 23 6019 or eosinophil-mast cell growth-factor or colony-stimulating factor multipotential or erythrocyte burst-promoting factor or burst-promoting factor erythrocyte or hematopoietin 2 or colony stimulating factor mast cell or eosinophil mast cell growth factor or p cell stimulating factor or colony-stimulating factor 2 alpha or p-cell stimulating factor or mast-cell colony-stimulating factor or multipotential colony stimulating factor or erythrocyte burst promoting factor or il-3 or il3 or colony-stimulating factor mast-cell or multipotential colony-stimulating factor or burst promoting factor erythrocyte or colony stimulating factor multipotential or mast cell growth factor 2 or binetrakin or mcgf-2 or bcgf-1 or il-4 or il4 or b-cell growth factor-1 or bsf-1 or il 5 or il5 or t-cell replacing factor or differentiation factor eosinophil or eosinophil differentiation factor or bcgf-ii or growth factor hybridoma or il6 or il 6 or hybridoma growth factor or growth factor plasmacytoma or plasmacytoma growth factor or bsf-2 or hepatocyte-stimulating factor or mgi-2 or myeloid differentiation inducing protein or differentiation-inducing protein myeloid or ifn-beta 2 or myeloid differentiation-inducing protein or lymphopoietin-1 or lymphopoietin 1 or il7 or il-7 or il8 or il 8 or cxcl8 or amcf-I or il9 or il 9 or il10 or il 10 or csif-10 or il 11 or il11 or inhibitory factor adipogenesis or adipogenesis inhibitory factor or factor adipogenesis inhibitory or il12 or il 12 or edodekin alfa or il13 or il 13 or il 15 or il15 or il16 or il 16 or lcf factor or il 17 or il17 or il 17e or il 17f or il 17c or il 17a or il 17b or il18 or il-18 or il23 or il 23 or il27 or il 27 or il-17d or CD 11 or CD11 or CD 11b or CD11b or CD68 or CD40 or CD45 or Ox-42 or OX42 or ed-1 or ed1 or cd200 or cd 200 or Iba 1 or Iba1 or ly6g or cd3 or mpo or mcp1 or mcp-1 or ccr2 or arg1 or arg 1 or mhc or major histocompatibility complex or aldh1 or aldh 1 or hla dr or cd20 or nf kb or nfkb or calpronectin or enkaphalin or COX or COX2 or COX1 or cPLA2 or iPLA2 or sPLA2 or txa2 or tx a2 or txb2 or tx b2 or lta4 or lt a4 or ltb4 or lt b4 or resolving or protectin or maresin or 6 ketoPGF or 6ketoPGF or lipoxygenase or LOX or 12 lox or 12lox or 15 lox or 15lox or 5 lox or 5lox or COX or COX2 or COX1 or cPLA2 or iPLA2 or sPLA2 or txa2 or tx a2 or txb2 or tx b2 or lta4 or lt a4 or ltb4 or lt b4 or resolving or protectin or maresin or 6-ketoPGF or 6ketoPGF or lipoxygenase or LOX or 12-lox or 12lox or 15-lox or 15lox or 5-lox or 5lox or iNOS or RELB or mPGES or tnf-a or tnfa or il1a or il1 a or il1b or il1 b).ab,kw,ti.
4. (Brain* or hippocamp* or encephalon or Blood Brain Barrier or hemato-encephalic barriers or barriers brain-blood or hemato encephalic barrier or barriers hemato-encephalic or barrier hemato-encephalic or hemato-encephalic barrier or truncus cerebrus or truncus cerebri or cerebri truncus or brainstems or cerebrus truncus or Mesencephalon or mesencephalon or mesencephalons or midbrains or midbrain or Cerebral Peduncle or Cerebral Crus or Substantia Nigra or nigras substantia or nigra substantia or substantia nigras or Pars Compacta or Pars Reticulata or Tegmentum Mesencephali or midbrain trigeminal nucleus or nucleus peripeduncular or annulari nucleus or nervi trochlearis nucleus or midbrain tegmentum or mesencephalus tegmentum or tegmental nucleus ventral or

mesencephalic tegmentums or midbrain tegmentums or trigeminal nucleus mesencephalic or tegmentums midbrain or trochlearis nucleus nervi or nucleus annularis or trigeminal nucleus midbrain or nucleus annular or mesencephali tegmentum or darkshevichs nucleus or tegmentums mesencephalic or ventral tegmental nucleus or mesencephalic trigeminal nucleus or nervi trochleari nucleus or nucleus darkshevich's or darkschewitsch nucleus or tegmentum of midbrain or nucleus annulari or cajal interstitial nucleus or mesencephalic tegmentum or nuclei accessory oculomotor or trochlear nucleus or annularis nucleus or nucleus mesencephalic trigeminal or nucleus of darkschewitschor peripeduncular nucleus or oculomotor nuclei accessory or tegmentum midbrain or tegmentum mesencephali or nucleus nervi trochlearis or darkshevich nucleus or nucleus tractus mesencephalici nervi trigemini or interstitial nucleus of cajal or Cerebral Aqueduct or ducts mesencephalic or mesencephalic ducts or aqueduct mesencephalic or sylvian aqueducts or duct mesencephalic or sylvius aqueduct or cerebrus aqueductus or aqueductus cerebrus or cerebral aqueduct or aqueduct sylvian or aqueduct of sylvius or mesencephalic duct or cerebral aqueducts or aqueducts sylvian or aqueduct cerebral or sylvian aqueduct or aqueductus cerebri or aqueducts mesencephalic or cerebri aqueductus or mesencephalic aqueduct or Midbrain Reticular Formation or Pedunculopontine Tegmental Nucleus or nucleus tegmentalis pedunculopontinus or nucleus pedunculopontine tegmental or tegmental nucleus pedunculopontine or pedunculopontine tegmental nucleus or Oculomotor Nuclear Complex or Edinger-Westphal Nucleus or Periaqueductal Grey or greys central periaqueductal or griseum centrales or central grey substance of midbrain or periaqueductal greys central or grey matter periaqueductal or grey central periaqueductal or substantia grisea centralis or periaqueductal grey matter or central periaqueductal grey or grisea centralis substantia or periaqueductal grey or centrale mesencephali griseumor centrale mesencephalus griseum or centrale griseum or grey matters periaqueductalor centrales griseum or periaqueductal grey central or substantia grisea centralis mesencephali or mesencephalus griseum central or midbrain central grey or central grey mesencephalic or central periaqueductal greys or central grey midbrain or griseum centrale mesencephali or Raphe Nuclei or nucleus incertus or nucleus superior central ornuclei raphe ornucleus interfascicular or superior central nucleus or raphe nuclei or interfascicular nucleus or raphe nucleus or incertus nucleus or central nucleus superior or rostral linear nucleus of the raphe or caudal linear nucleus of the raphe or rostral linear nucleus of raphe or nucleus rapheor Dorsal Raphe Nucleus or Interpeduncular Nucleus or Midbrain Raphe Nuclei or Red Nucleus or nucleus ruber or red nucleus or nucleus red or Ventral Tegmental Area or tegmentalis ventralis area or tegmentalis ventrali area or area tegmentalis ventralis or ventral tegmental area of tsai or ventral tegmental area or tegmental area ventral or area tegmentalis ventrali or Locus Coeruleus or coeruleus complex locus or complices locus coeruleus or locus caeruleus or complex locus ceruleus or complices locus ceruleus or coeruleus complices locus or ceruleus complex locus or locus ceruleus complex or complex locus coeruleus or locus ceruleus complices or locus ceruleus or nucleus pigmentosus pontis or locus coeruleus complices or pontis nucleus pigmentosus or ceruleus complices locus or locus coeruleus or locus coeruleus complex or Tectum Mesencephali or corpora quadrigemina or inferior colliculus commissures or colliculus commissures superior or colliculus commissures inferior or quadrigeminal plates or superior colliculus commissure or plate quadrigeminal or commissure of superior colliculus or quadrigemina corpora or commissure of inferior colliculus or lamina quadrigemina or inferior colliculus commissure or colliculus commissure inferior or quadrigeminal plate or tectum mesencephalus or mesencephalus tectum or plates quadrigeminal or quadrigemina lamina or colliculus commissure superior or Inferior Colliculi or colliculi inferior or inferior colliculi or inferiors colliculus or posterior colliculus or brachial nucleus of the inferior colliculus or caudal colliculus or colliculus inferiors or colliculus caudal or inferior colliculus or colliculus posterior or colliculus inferior or Subcommissural Organ or subcommissural organs or subcommissural organ or organs subcommissural or organ subcommissural or Superior Colliculi or mammalian optic lobesor optic lobe mammalian or optic tectums or superior colliculi or optic tectum or anterior colliculus or colliculus superior or human optic lobes or superior colliculus or optic lobes human or optic lobes mammalian or optic lobe human or colliculi superior or tectum optic or tectums optic or mammalian optic lobe or human optic lobe or colliculus anterior or Reticular Formation or formations reticular or reticular formation or reticular formations or formation reticular or edunculopontine Tegmental Nucleus or nucleus tegmentalis pedunculopontinus or nucleus pedunculopontine tegmental or tegmental nucleus pedunculopontine or pedunculopontine tegmental nucleus or Respiratory Center or centers respiratory or respiratory centers or center respiratory or respiratory center or hombencephalon or hind brains or brains hind or rhombencephalons or hindbrain or hindbrains or brain hind or rhombencephalon or hind brain or Medulla Oblongata or medulla oblongata or nucleus ambiguous or arcuate nucleus-1 or accessory cuneate nucleus or nucleus external cuneate or cuneate nucleus accessory or nucleus ambiguous or medulla oblongatas or arcuate nucleus of the medulla or cuneate nucleus lateralor nucleus lateral cuneate or ambiguous nucleus or cuneate nucleus external or arcuate nucleus 1 or external cuneate nucleus or ambiguus nucleus or arcuate nucleus-1s or lateral cuneate nucleus or Area Postrema or area postremas or trigger zone chemoreceptor or chemoreceptor trigger zone or chemoreceptor trigger zones or trigger zones chemoreceptor or zone chemoreceptor trigger or postrema area or zones chemoreceptor trigger or area postrema or Olivary Nucleus ornucleus basalis olivary or nucleus olivary or basalis olivary nucleus or nucleus olivary basal or olivary basal nucleus or basal nucleus olivary or olivary nucleus or Raphe nuclei or nucleus incertus or nucleus superior central or nuclei raphe or nucleus interfascicular or superior central nucleus or raphe nuclei or interfascicular nucleus or raphe nucleus or incertus nucleus or central nucleus superior or rostral linear nucleus of the raphe or caudal linear nucleus of the raphe or rostral linear nucleus of raphe or nucleus raphe or Nucleus Raphe

Obscurus or Nucleus Raphe Pallidus or Solitary Nucleusor solitary nuclear complices or nucleus of tractus solitaries or complex solitary nuclear or tractus solitarii nuclei or nucleus solitaries or solitarius nucleus tractus or tractus solitarius nucleus or solitarius nuclei tractus or solitary tract nucleus or nucleus solitary tract or solitary nuclear complex or tractus solitarius nuclei or nuclear complices solitary or nuclei tractus solitarii or solitary nucleus ornucleus solitaryor nucleus of the solitary tract or nuclear complex solitary or complices solitary nuclear or nucleus of solitary tract or nucleus tractus solitaries or Trigeminal Nucleus, Spinal or trigeminal nucleus spinal or nucleus spinal trigeminal or spinal trigeminal nucleus or Trigeminal Caudal Nucleus or caudal nucleus trigeminal or nucleus trigeminal caudal or trigeminal caudal nucleus or Metencephalon or Cerebellumor corpus cerebellus or parencephalons or cerebellus corpus or cerebellum or cerebellums or corpus cerebelli or parencephalon or cerebelli corpus or Cerebellar Cortex or cerebelli cortex or cortex cerebellus or cerebellar cortex or cortex cerebelli orcerebellus cortex or cortex cerebellar or Cerebellar Vermis or Purkinje Cells or purkinje cells or cells purkinje or Cerebellar Nuclei or nucleus dentatus or Cerebellopontine Angle or central nucleus or central nucleus or interposed nucleus anterior or nucleus globosus or medial cerebellar nucleus or emboliformis nucleus or nuclei cerebellar or intracerebellar nuclei or nucleus fastigii or nucleus fastigial or fastigii nucleus or central nuclei or nuclei central or deep cerebellar nucleus or intracerebellar nucleus or nucleus fastigial cerebellar or nucleus anterior interposed or nucleus intracerebellar oranterior interposed nucleus or nucleus anterior interpositus or nucleus medial cerebellar or nuclei intracerebellar or nucleus dentate or dentate nucleus or interpositus nucleus anterior or globosus nucleus orcerebellar nucleus deep or nucleus central or nucleus cerebellar or cerebellar nuclei deep or nucleus dentate cerebellar or anterior interpositus nucleus or cerebellar nucleus medial or cerebellar nuclei or fastigial cerebellar nucleus or Pons or pons or varolii ponsor pontes or pons varolius or varolius pons or pons varolii or ponte or Barrington's Nucleusor Cochlear Nucleus or cochlear nucleus or nuclei cochlear or cochlear nuclei or nucleus cochlear or Kolliker-Fuse Nucleus or Middle Cerebellar Peduncle or Pontine Tegmentum or Abducens Nucleus or Facial Nucleus or Parabrachial Nucleus or Nucleus Raphe Magnus or Superior Olivary Complex or Trapezoid Body or Trigeminal Motor Nucleus or Vestibular Nuclei or schwalbes nucleus or nucleus schwalbe or vestibular nuclei or vestibular nucleus medial or nuclei vestibular or schwalbe's nucleus or nucleus schwalbe's or medial vestibular nucleus or schwalbe nucleus or nucleus medial vestibular or Vestibular Nucleus, Lateral or deiters nucleus or deiter's nucleus or nucleus of deiters or lateral vestibular nucleus or nucleus lateral vestibular or vestibularis laterali nucleus or nucleus vestibularis laterali or vestibular nucleus lateral or vestibularis magnocellulari nucleus or vestibularis magnocellularis nucleus or deiter nucleus or nucleus vestibularis magnocellularis or nucleus vestibularis magnocellulari or nucleus deiter or nucleus vestibularis lateralis or vestibularis lateralis nucleus or nucleus deiter's or Tectospinal Fibers or Trigeminal Nuclei or trigeminal nucleus or trigeminal nuclear complices or trigeminal nuclear complex or nuclei trigeminal or trigeminal nuclei or nucleus trigeminal or nuclear complices trigeminal or nuclear complex trigeminal or Grey Matter or grey matter or grey matters cerebellar or grey matter cerebellar or matters grey or matter cerebellar grey or grey matter cerebellar or cerebellar grey matters or grey matters or matter cerebellar grey or cerebellar grey matter or matters grey or cerebellar grey matters or matters cerebellar grey or grey matters cerebellar or matters cerebellar grey or grey matter or cerebellar grey matter or matter grey or matter grey or White Matter or white matter cerebellar or matter cerebellar white or matter white or matters cerebellar white or white matters cerebellar or cerebellar white matters or cerebellar white matter or matters white or white matter orwhite matters or Cerebral Ventricles or cerebral ventricle or cerebral ventriclesor monro foramen or ventricles cerebral or foramen of monro or cerebral ventricular system or ventricle cerebral or Choroid Plexus or choroideus plexus or plexus choroideusor choroid plexus or chorioid plexus or plexus chorioid or plexus choroid or Ependyma or ependymal or ependymas or Fourth Ventricle or ventricolo quarto or ventricles fourth or ventricle fourth or 4th ventricle or quarto ventricolos or ventricle 4th or ventricles 4th or fourth ventricle or ventricolos quarto or fourth ventricles or 4th ventricles or quarto ventricolo or Lateral Ventricles or lateral ventricle orsubventricular zones or lateral ventricles or ventricle lateral or zone subventricular or ventricles lateral or subventricular zone or zones subventricular or Septum Pellucidum or septum supracommissural or pelusidum septum or septum pellucidum or lucidums septum or supracommissural septum or pellucidum septum or septum pelusidums or septum pelusidum or pelusidums septum or septum lucidums or supracommissural septums or septums supracommissural or lucidum septum or septum lucidum or Third Ventricle or 3rd ventricle or ventricles third or ventricles 3rd or third ventricle or ventricle 3rd or 3rd ventricles or third ventricles or ventricle third or Limbic System or limbic system or system limbic or systems limbic or limbic systems or Amygdala or amygdaloid bodies or corpus amygdaloideums or nucleus intercalated amygdaloid or corpus amygdaloideum or amygdaloid body or complex amygdaloid nuclear or amygdaloid nuclear complices or amygdaloid nucleusor intercalata massa or amygdaloideums corpus or intercalatas massa or amygdaloid nucleus intercalated or nuclear complices amygdaloid or archistriatums or amygdala or massa intercalates or nucleus amygdaloid or amygdaloideum corpus or amygdalae nucleus or nuclear complex amygdaloid or archistriatum or nucleus amygdalae or amygdaloid nuclear complex or Basolateral Nuclear Complex or Central Amygdaloid Nucleus or Corticomedial Nuclear Complex or Periamygdaloid Cortex or epithalamus or Habenula or commissure habenular or habenula complex or habenulas or complices habenula or nucleus habenularis or habenular commissures or complex habenula or habenula complices or nucleus habenular or nucleus habenulari or commissures habenular or habenula or habenularums commissura or commissura habenularum or habenularis nucleus or habenular nuclei or commissura habenularums or nuclei habenular

or habenulari nucleus or habenular nucleus or Pineal Gland or pineales corpus or body pineal or glands pineal or pineal glands or pineal body or cerebri epiphysis or corpus pineales or gland pineal or pineale corpus or bodies pineal or corpus pineale or pineal gland or pineal bodies or epiphysis cerebri or Hippocampus or hippocampal formation or propers hippocampus or hippocampus propers or formations hippocampal or horn ammon's or schaffer collateral or ammon horn or hippocampus or horn ammon or cornu ammonis or hippocampus proper or proper hippocampus or collaterals schaffer or formation hippocampal or hippocampal formations or subiculum or subiculums or ammon's horn or CA1 Region, Hippocampal or regio superior of hippocampus or field hippocampus ca1 or ca1 stratum radiatum or stratum radiatum ca1 or hippocampal sector ca1 or hippocampus ca1 field or hippocampus regio superior or ca1 stratum radiatums or sector ca1 hippocampal or ca1 field hippocampus or radiatums ca1 stratum or stratum radiatums ca1 or ca1 hippocampal sector or ca1 pyramidal cell area or ca1 region hippocampal or ca1 pyramidal cell layer or ca1 stratum pyramidale or stratum pyramidale ca1 or cornu ammonis 1 area or radiatum ca1 stratum or CA2 Region, Hippocampal or ca2 stratum pyramidale or radiatums ca2 stratum or cornu ammonis 2 area or ca2 field hippocampus or stratum pyramidale ca2 or stratum radiatum ca2 or ca2 stratum radiatums or radiatum ca2 stratum or sector ca2 hippocampal or region hippocampal ca2 or ca2 field of hippocampus or stratum radiatums ca2 or ca2 region hippocampal or hippocampal sector ca2 or hippocampal ca2 region or hippocampus ca2 field or ca2 pyramidal cell layer or field hippocampus ca2 or ca2 pyramidal cell area or CA3 Region, Hippocampal or stratum lucidum ca3 or ca3 stratum lucidum or stratum lucidums ca3 or lucidum ca3 stratum or ca3 region hippocampal or ca3 pyramidal cell area or hippocampus ca3 field or ca3 hippocampal sector or sector ca3 hippocampal or ca3 stratum radiatum or ca3 stratum lucidums or hippocampal ca3 regions or cornu ammonis 3 area or ca3 field of hippocampus or radiatum ca3 stratum or field hippocampus ca3 or stratum radiatums ca3 or ca3 pyramidal cell layer or lucidums ca3 stratum or region hippocampal ca3 or radiatums ca3 stratum or ca3 stratum pyramidale or ca3 field hippocampus or Dentate Gyrus or ca4 region hippocampal or dentate fascia or cornu ammonis 4 area or hilus gyri dentate or ca4 field of hippocampal formation or ca4 hippocampal sector or gyrus dentate or sector ca4 hippocampal or hippocampal ca4 region or area dentata or region hippocampal ca4 or dentata area or field hippocampal ca4 or gyrus dentatus or hilus of the fascia dentata or hilus of dentate gyrus or dentate gyrus or area dentatas or dentata fascia or hippocampal sector ca4 or hippocampal ca4 field or ca4 of lorente de no or Mossy Fibers, Hippocampal or hippocampal mossy fiber or mossy fibers hippocampal).ab,kw,ti.

5. (hippocampal mossy fibers or mossy fiber hippocampal or Fornix, Brain or hippocampal commissure or hippocampal commissures or commissures dorsal hippocampal or fornix commissures or fornices or brain fimbrias or fornical commissures or fornical commissure or fornix or hippocampal commissures dorsal or commissures hippocampal or fornix-fimbria or hippocampal commissure dorsal or fimbria or fornix fimbria or fimbria of hippocampus or brain fornices or dorsal hippocampal commissure or commissure fornical or commissure dorsal hippocampal or commissure of fornix or commissures fornical or commissure hippocampal or fornix commissure or fimbria-fornix or fimbria fornix or fimbria brain or hippocampus fimbrias or hippocampus fimbria or brain fimbria or Hypothalamus or preoptico-hypothalamic areas or preoptico hypothalamic area or lamina terminalis or hypothalamus or areas preoptico-hypothalamic or area preoptico-hypothalamic or preoptico-hypothalamic area or Hypothalamic Area, Lateral or area hypothalamica laterali or hypothalamica laterali area or hypothalami area lateralis or lateralis area hypothalamica or hypothalamus area lateralis or laterali area hypothalamica or areas lateral hypothalamic or lateralis hypothalami area or lateral hypothalamic areas or accessory nucleus of the ventral horn or lateral tuberal nuclei or tuberal nucleus lateral or lateral hypothalamus or area hypothalamica lateralis or hypothalamus lateral or tuberomammillary nucleus or hypothalamic area lateral or nucleus tuberomammillary or nuclei lateral tuberal or nucleus lateral hypothalamic or lateralis hypothalamus area or area lateral hypothalamic or hypothalamic nucleus lateral or area lateralis hypothalamus or nucleus lateral tuberal or Hypothalamus, Anterior or commissures anterior hypothalamic or anterior hypothalamic decussation of ganser or hypothalamic commissures anterior or anterior hypothalamic commissures or commissure anterior hypothalamic or periventricular nucleus anteroventral or nucleus anteroventral periventricular or anterior hypothalamic commissure or hypothalamic commissure anterior or hypothalamus anterior or hypothalamus supraoptic or anteroventral periventricular nucleus or anterior hypothalamus or supraoptic hypothalamus or Anterior Hypothalamic Nucleus or areas anterior hypothalamic or hypothalamic area anterior or nucleus anterior hypothalamic or anterior hypothalamic nucleus or hypothalami nucleus anterior or hypothalamic areas anterior or anterior hypothalami nucleus or anterior hypothalamic area or area anterior hypothalamic or nucleus anterior hypothalamus or hypothalamus nucleus anterior or anterior hypothalamic areas or anterior hypothalamus nucleus or nucleus anterior hypothalami or hypothalamic nucleus anterior or Organum Vasculosum or Paraventricular Hypothalamic Nucleus or hypothalamic paraventricular nucleus or paraventricular hypothalamic nucleus or nucleus paraventricular hypothalamic or nucleus hypothalamic paraventricular or nucleus paraventricular or paraventricular nucleus or hypothalamic nucleus paraventricular or paraventricular nucleus hypothalamic or Preoptic Area or area medial preoptic or preoptic area medial or preoptic nucleus or nuclei preoptic or lateral preoptic area or preoptic areas lateral or area preoptic or areas medial preoptic or area lateral preoptic or preoptic areas medial or lateral preoptic areas or preoptica area or nucleus preoptic or medial preoptic areas or areas lateral preoptic or area preoptica or areas preoptic or preoptic nuclei or medial preoptic area or preoptic area or preoptic areas or Suprachiasmatic Nucleus or nucleus suprachiasmatic or suprachiasmatic nucleus or Supraoptic Nucleus or hypothalamus supraoptic

nucleus or supraoptic group accessory or accessory supraoptic groups or supraoptic nucleus of hypothalamus or supraopticus nucleus or groups accessory supraoptic or nucleus supraoptic or group accessory supraoptic or accessory supraoptic group or nucleus supraopticus or supraoptic groups accessory or supraoptic nucleus or Hypothalamus, Middle or regions intermediate hypothalamic or hypothalamic region intermediate or region intermediate hypothalamic or middle hypothalamus or hypothalamus medial or hypothalamic regions intermediate or intermediate hypothalamic regions or intermediate hypothalamic region or hypothalamus middle or medial hypothalamus or Arcuate Nucleus of Hypothalamus or nucleus arcuate or arcuate nucleus or hypothalamus arcuate nucleus or nucleus infundibular or infundibular nucleus or arcuate nucleus of hypothalamus or Dorsomedial Hypothalamic Nucleus or nucleus arcuate or arcuate nucleus or hypothalamus arcuate nucleus or nucleus infundibular or infundibular nucleus or arcuate nucleus of hypothalamus or Hypothalamo-Hypophyseal System or hypothalamic pituitary unit or hypothalamo hypophyseal system or hypothalamo-hypophyseal system or hypothalamic-pituitary unit or Median Eminence or eminentia medianas or median eminence or eminences medial or eminence medial or medial eminences or medianas eminentia or eminentia mediana or mediana eminentia or eminence median or medial eminence or Pituitary Gland or hypophyseal infundibulum or infundibular hypothalamus or pituitary glands or infundibulum or stalk infundibular or hypothalamus infundibular or infundibulums or pituitary stalks or pituitary gland or hypophysis or pituitary stalk or infundibular stem or stalks infundibular or glands pituitary or hypophysis cerebri or hypophyseal stalks or cerebri hypophysis orstalk hypophyseal or infundibular stalk or infundibular stalks or hypophysis cerebrus or hypophyseal stalk or Pituitary Gland, Anterior or lobus anteriors or anterior lobe of pituitary or anterior lobus or pituitary pars distalis or anterior pituitary glands or anteriors lobus or lobus anterior or pituitary gland anterior or adenohypophyses or pituitary glands anterior or adenohypophysis or pituitary anterior lobe or anterior pituitary gland or pars distalis of pituitary or Corticotrophs or Gonadotrophs or lh producing cells or lh-secreting cells or fsh cells or gonadotrophs or lh cell or fsh-secreting cellsor fsh secreting cells or fsh-producing cells or fsh-producing cell or fsh cell or lh-producing cells or fsh producing cells or lh secreting cells or fsh-secreting cell or gonadotroph or lh-producing cell or lh-secreting cell or lh cell or Lactotrophs or pituitary prolactin-secreting cells or lactotrophs or pituitary prolactin cell or prolactin-secreting cell pituitary or prolactin-secreting cells pituitary or lactotroph or prolactin cell pituitary or prolactin cells pituitary or pituitary prolactin cells or pituitary prolactin-secreting cell or pituitary prolactin secreting cells or Somatotrophs or gh cell pituitary or somatotrophs or gh cells pituitary or pituitary growth hormone-secreting cells or pituitary gh cell or pituitary growth hormone secreting cells or pituitary gh cells or somatotroph or Thyrotrophs or Pituitary Gland, Intermediate or Melanotrophs or Pituitary Gland, Posterior or lobes neural or posterior pituitary glands or neural lobe or pituitary pars nervosa or infundibular processes or infundibular process or process infundibular or neurohypophysis or lobe neural or gland posterior pituitary or pituitary posterior lobe or pars nervosa of pituitary or posterior lobe of pituitary or neural lobes or nervosus lobus or lobus nervosus or pituitary gland posterior or processes infundibular or Tuber Cinereum or cinereums tuber or cinereum tuber or tuber cinereum or tuber cinereums or Ventromedial Hypothalamic Nucleus or nucleus ventromedial hypothalamic or hypothalamic nucleus ventromedial or ventromedial hypothalamic nucleus or Hypothalamus, Posterior or posteriors area hypothalamica or area hypothalamica posterior or mammillary regions or region mammillary or nucleus posterior periventricular or hypothalamic regions posterior or hypothalamus posteriors or mammillary region or posterior area hypothalamica or posterior hypothalamic regions or supramammillary commissures or region posterior hypothalamic or supramammillary commissure or regions posterior hypothalamic or posterior hypothalamus or commissures supramammillary or premammillary nucleus or hypothalamic region posterior or posterior hypothalamic region or commissure supramammillary or hypothalamus posterior or hypothalamica posteriors area or periventricular nucleus posterior or nucleus premammillary or Mammillary Bodies or mammillary bodies ormammillary body or body mammillary or mamillary bodies or body mamillary or bodies mamillary or bodies mammillary or mamillary body or Limbic Lobe or Gyrus Cinguli or gyrus cingular or anterior cingulate gyrus or cingulate gyri posterior or cortex anterior cingulate or posterior cingulate gyrus or cinguli anteriors gyrus or mesial region superior or gyrus cingulate or cingulate cortex anterior or cingulate cortex or superior mesial regions or regions cingulate or cortex posterior cingulate or anterior cingulate cortices or posterior cingulates or cingulate bodies or cingulates anterior or cortices anterior cingulate or posterior cingulate cortices or mesial regions superior or posterior cingulate cortex or regions posterior cingulate or cingulate posterior or posterior cingulate region or region posterior cingulate or body cingulate or cortex cingulate or posterior cingulate regions or cingulate gyrus anterior or cingulate gyrus or cingulate gyrus posterior or cingular gyrus or bodies cingulate or cingulate area or anterior cingulates or area cingulate or cingulate regions or regions superior mesial or ingulates posterior or areas cingulate or cingulate cortices anterior or anterior gyrus cinguli or gyri posterior cingulate or gyrus anterior cingulate or gyrus cinguli anteriors or cinguli anterior gyrus or superior mesial region or anterior cingulate or gyrus cinguli anterior or cingulate anterior or region cingulate or cingulate areas or Parahippocampal Gyrus or gyrus parahippocampal or gyri parahippocampal or parahippocampal gyri posterior or hippocampal gyrus or gyri posterior parahippocampal or posterior parahippocampal gyrus or gyrus parahippocampalis or parahippocampal gyrus uncus or presubiculums or posterior parahippocampal gyri or gyrus posterior parahippocampal or parahippocampal gyrus posterior or uncus of parahippocampal gyrus or gyri hippocampal or parahippocampal gyrus or presubiculum or gyrus hippocampi or uncus parahippocampal gyrus or gyrus uncus parahippocampal or gyrus hippocampal or parahippocampal gyri or Entorhinal Cortex or area entorhinali or areas entorhinal or entorhinalis area or entorhinal area or area

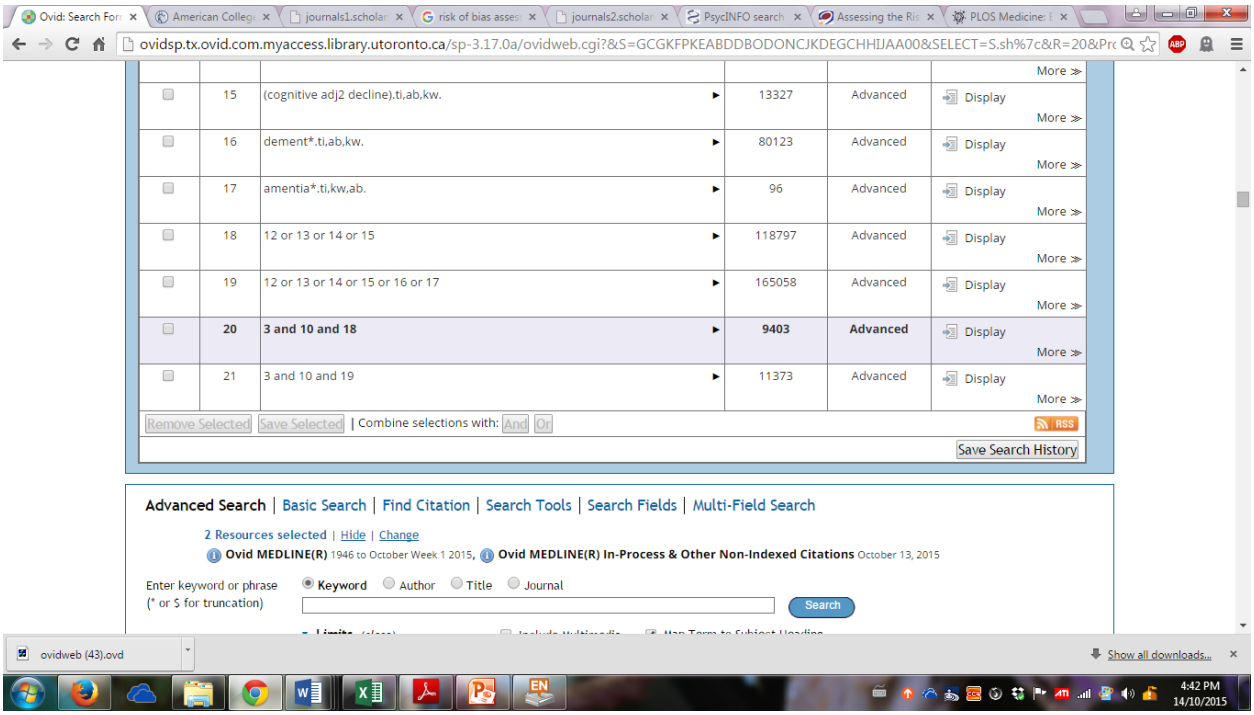
entorhinal or entorhinal cortices or area entorhinalis or cortices entorhinal or entorhinali area or olfactory cortices secondary or secondary olfactory cortex or cortex secondary olfactory or cortices secondary olfactory or entorhinal cortex or olfactory cortex secondary or secondary olfactory cortices or cortex entorhinal or entorhinal areas or Olfactory Pathways or olfactory pathways or pathways olfactory or olfactory pathway or pathway olfactory or Perforant Pathway or pathway perforant or pathways perforant or perforant paths or perforant pathways or perforant pathway or fasciculus perforating or paths perforant or perforant path or perforating fasciculus or path perforant or Septum of Brain or paraterminal body or brain septums or brain septum or septum of brain or paraterminal bodies or area septal or bodies paraterminal or body paraterminal or septal area or region septal or septal region or Septal Nuclei or nucleus of the stria terminalis or septi lateralis nucleus or septal nuclear complices or nucleus of anterior commissure or terminali nucleus striae or laterali nucleus septalis or nucleus lateralis septi or nucleus lateralis septus or nuclear complices septal or septofimbrial nucleus or diagonal band nucleus or nucleus septofimbrial or nucleus septi lateralis or laterali nucleus septi or nucleus triangular septal or medial septal nucleus or nucleus of diagonal band or nucleus septalis lateralis or nucleus striae terminali or nuclear complex septal or septum nucleus lateral or lateral septal nucleus or lateralis nucleus septalis or septal nucleus lateral or septalis laterali nucleus or nuclei septal or anterior commissure nucleus or septus nucleus lateralis or septi laterali nucleus or nucleus medial septum or nucleus septalis laterali or triangularis septus nucleus or lateralis nucleus septi or complex septal nuclear or nucleus striae terminalis or nucleus of stria terminalis or septalis lateralis nucleus or dorsal septal nucleus or nucleus triangularis septus or nucleus lateral septumor nucleus triangularis septi or nucleus lateral septal or septal nucleus triangular or terminalis nucleus striae or septi nucleus lateralis or septi nucleus triangularis or triangular septal nucleus or septus nucleus triangularis or nucleus medial septal or complices septal nuclear or lateralis septus nucleus or medial septum nucleus or lateralis septi nucleus or Substantia Innominata or innominata substantia or substantia innominata or Prosencephalon or prosencephalon or forebrains or forebrain or Diencephalon or diencephalon or interbrain or interbrains or Optic Chiasm or chiasmas optic or optic chiasms or decussation optic or chiasma optic or optic chiasm or optic chiasma or optic decussation or opticums chiasma or optic decussations or chiasma opticum or decussations optic or opticum chiasma or optic chiasmas or chiasma opticums or chiasms optic or chiasm optic or Optic Tract or Subthalamus or subthalamus or fasciculus thalamic or field h nucleus or campi forelus nucleus or fasciculus lenticular or field h1 forel's or campi foreli nucleus or enticular fasciculus or forels field h2 or forel field h2 or thalamicus fasciculus or fasciculus thalamicus or thalamic fasciculus or forelus nucleus campi or nucleus of ansa lenticularis or foreli nucleus campi or nucleus campi forelus or nucleus of field h or forels field h1 or forel's field h2 or field h1 of forel or forel field h1 or Entopeduncular Nucleus or Subthalamic Nucleus or nucleus of luys or luys subthalamic nucleus or corpus luysi or luys body or subthalamic nucleus of luys or subthalamicus nucleus or luys nucleus or nucleus subthalamic or luysi corpus or body of luys or nucleus subthalamicus or subthalamic nucleus or Zona Incerta or Thalamus or thalamencephalon or thalamencephalons or thalamus or Thalamic Nuclei or nuclei thalamic or thalamic nuclei or Anterior Thalamic Nuclei or nucleus anterodorsal thalamic or anterior nuclear group or nucleus anteromedial thalamic or nucleus anteroventral thalamic or thalamus anterior nucleus or anterior thalamic nucleus or nucleus anteroventral or anteroventral nucleus or thalamic nucleus anterodorsal or nuclei anterior thalamic or thalamic nuclei anterior or anteromedial nucleus or anteromedial thalamic nucleusor thalamus anterior or nucleus anteromedial or anterodorsal nucleus or anterior thalamus or anterior thalamic nuclei or anterodorsal thalamic nucleus or nucleus anterodorsal or thalamic nucleus anteroventral or Geniculate Bodies or nucleus geniculate or medial geniculate nucleus or geniculate complex medial or geniculatum mediales corpus or bodies geniculate or nucleus lateral geniculate or mediales corpus geniculatum or geniculate bodies medial or mediale corpus geniculatum or geniculate body or geniculatum mediale corpus or geniculate nucleus lateral or geniculate bodies or geniculate bodies lateral or metathalamus or corpus geniculatum mediale or geniculate body lateral or complex medial geniculate or nucleus geniculatus lateralis pars dorsalis or geniculate body medial or geniculate complices medial or geniculate nucleus or complices medial geniculate or medial geniculate body or medial geniculate bodies or geniculate nucleus medial or Intralaminar Thalamic Nuclei or nucleus paracentrali or centrum medianum or paracentrali nucleus or centromedian thalamic nucleus or central lateral nucleus or thalamic nucleus parafascicular or central lateral thalamic nucleus or parafascicular thalamic nucleus or thalamic nucleus intralaminar or nucleus central dorsal or parafascicular nucleus of the thalamus or centromedian nucleus or intralaminar nuclei rostral or intralaminar nuclear group or thalamic nucleus centromedian or parafascicularis nucleus or nucleus central lateral or thalamic nuclei intralaminar or central dorsal thalamic nucleus or interlaminar nuclei of thalamus or rostral intralaminar nuclei or thalamus nucleus parafascicularis or centrum medianums nucleus or medianum centrum or thalamic nucleus paracentral or thalamus reticulate nucleus or nucleus paracentral or nucleus central medial or paracentral thalamic nucleus or median nucleus centre or nuclei intralaminar thalamic or nuclei rostral intralaminar or central medial nucleus or nucleus centrum medianums or nucleus centre median or medianum nucleus centrum or nucleus paracentral thalamic or nucleus centromedian thalamic or nucleus parafascicularis thalamus or nucleus intralaminar thalamic or nucleus centrum medianum or nucleus parafascicularis thalami or parafascicularis thalami nucleus or parafascicularis thalamus nucleus or reticulate nuclei of thalamus or nucleus parafasciculari or centrum medianums or centrum medianum nucleus or paracentralis nucleus or lateral nucleus central or parafascicular nucleus or central medial thalamic nucleus or nucleus centromedian or Lateral Thalamic Nuclei or medial pulvinar nucleus or Pulvinar or anterior pulvinar nucleus).ab,kw,ti.

6. (anterior pulvinar nucleus or pulvinar nucleus or nucleus anterior pulvinar or lateral pulvinar nucleus or pulvinar nucleus oral or oral pulvinar nucleus or pulvinar nucleus inferior or pulvinars or pulvinari nucleus or nucleus oral pulvinar or nucleus pulvinar or pulvinar thalami or nucleus pulvinari or nucleus lateral pulvinar or thalami pulvinar or nucleus inferior pulvinar or pulvinaris nucleus or nucleus pulvinaris or pulvinar thalamus or inferior pulvinar nucleus or pulvinar nucleus lateral or Mediodorsal Thalamic Nucleus or medialis dorsali nucleus or medial dorsal thalamic nucleus or mediodorsal nucleus or dorsomedialis thalamus nucleus or nucleus dorsomedial thalamic or nuclei medial thalamic or dorsali nucleus medialis or nucleus mediodorsal or nucleus dorsomedialis thalamus or nucleus medialis dorsali or nucleus mediodorsal thalamic or thalami nucleus dorsomedialis or thalamus nucleus dorsomedialis or thalamic nucleus medial or dorsomedialis thalami nucleus or thalamic nuclei medial or nucleus medial thalamic or mediodorsal thalamic nucleus or nucleus dorsomedial or nucleus medialis dorsalis or thalamic nucleus mediodorsal or dorsal medial nucleus or medialis dorsalis nucleus or nucleus dorsomedialis thalami or medial thalamic nucleus or Midline Thalamic Nuclei or parataenial nucleus or nucleus reunien or rhomboid nucleusor nucleus subfascular or nuclear group midline or paratenial nucleus or rhomboidal nucleus or rhomboid thalamic nucleus or nucleus rhomboid thalamic or reuniens nucleus or subfascular nucleus or thalamus nucleus reuniens or thalami nucleus reuniens or nucleus paraventricular thalamic or reunien nucleus or reuniens thalami nucleusor paraventricular nucleus of thalamus or paraventricular thalamic nucleus or midline thalamic nucleus or thalamic nuclei midline or paratenial thalamic nucleus or thalamic nucleus rhomboid or periventricular nuclei of thalamus or thalamic nucleus reuniens or reuniens thalamus nucleus or thalamus midline nucleus or nucleus paratenial or thalamus paraventricular nucleus or midline thalamic nuclei or thalamic nucleus subfascular or nucleus reuniens thalamus or thalamic nucleus paratenial or nucleus reuniens or nucleus rhomboid or thalamic nucleus paraventricular or midline nuclear group or Posterior Thalamic Nuclei or supergeniculate nucleus or posterior nuclear complicesor nucleus supergeniculateor posterior thalamic nuclei or suprageniculate thalamic nucleus or submedial nucleus or limitans nucleus or thalamic nuclei posterior or nucleus limitan or thalamic nucleus suprageniculate or nucleus submedial or nuclear complices posterior or complices posterior nuclear or posterior nucleus of thalamus or nucleus limitans or nucleus suprageniculate thalamic or posterior thalamic nucleus or posterior thalamic nuclear group or posterior nuclear complex or nuclear complex posterior or thalamus posterior nucleus or Ventral Thalamic Nuclei or posterior nucleus ventral or ventrolateral thalamic nucleus or intermedius nucleus ventralis or ventral posterior nucleus or ventralis intermedius nucleus or ventrobasal complex or ventralis posteromediali nucleus or nuclear mass ventral or group ventral nuclear or ventralis posterolateralis nucleus or nucleus ventral anterior or ventral nuclear groups or laterali nucleus ventralis or nucleus ventral posterolateral or ventralis posterior nucleus or masses ventral nuclear or nucleus ventralis posterolaterali or ventral lateral nucleus or nucleus ventralis intermedius or ventral anterior thalamic nucleus or thalamic nucleus ventral or posterolaterali nucleus ventralis or ventral posteromedial thalamic nucleus or nucleus ventrolateralis thalamus or ventrobasal complices or nucleus ventralis posteromedialis or nuclei ventral thalamic or nucleus ventrolateralis thalami or mass ventral nuclearor ventrolateralis thalami nucleus or ventrolateralis thalamus nucleus or posterolateral nucleus ventral or nuclear group ventral or arcuate nucleus 3 or nucleus ventralis posteriors or ventral posterior thalamic nucleus or ventral posterior medial nucleus or ventral posteroinferior nucleus or posteroinferior nucleus ventral or posteriors nucleus ventralis or arcuate nucleus-3 or thalamus nucleus ventrolateralis or nucleus ventralis or posteromediali or complex ventrobasal or ventral lateral thalamic nucleus or ventral thalamic nuclei or ventral lateral thalamic nuclei or ventral posteromedial nucleus or posteromedialis nucleus ventralis or ventral anterior nucleus or ventral posterolateral nucleus or nuclear masses ventral or ventral posterior inferior thalamic nucleus or thalamic nucleus ventrolateral or ventral nuclear group or thalamus ventrolateral or thalami nucleus ventrolateralis or posteromediali nucleus ventralis or posterolateralis nucleus ventralis or posterior nucleus ventralis or nucleus ventral posteromedial or nucleus ventralis laterali or ventral posterolateral thalamic nucleus or nucleus ventral thalamic or ventralis lateralis nucleus or ventral nuclear mass or ventralis posteriors nucleus or ventralis laterali nucleus or nucleus ventral posterior or ventral thalamic nucleus or ventrolateral thalamus or nucleus ventralis lateralis or Telencephalon or telencephalon or endbrain or endbrains or Cerebrum or cerebrum or cerebral hemisphere left or cerebral hemisphere right or cerebral hemispheres or right cerebral hemisphere or cerebral hemisphere or left cerebral hemisphere or Basal Ganglia or ganglia basal or nuclei basal or basal ganglia or ganglion basal or basal nuclei or claustrum or Corpus Striatum or lenticular nucleus or nucleus lentiform or lentiformis nucleus or lentiform nucleus or corpus striatum or nucleus lenticular or nucleus lentiformis or lentiform nuclei or striatum corpus or nuclei lentiform or Globus Pallidus or pallidum or paleostriatum or globus pallidus or pallidums or Neostriatum or Caudate Nucleus or nucleus caudatus or caudate nucleus or caudatus nucleusor nucleus caudate or caudatus or High Vocal Center or Putamen or putamens or nucleus putamens or putamens nucleus or putamen nucleus or nucleus putamen or putamen or Ventral Striatum or Nucleus Accumbens or nucleus accumbens or accumbens septus nucleus or accumbens septi nucleusor nucleus accumbens septi or septi nucleus accumbens or accumbens nucleus or septus nucleus accumbens or nucleus accumbens septus or Olfactory Tubercleor Islands of Calleja or Basal Nucleus of Meynert or nucleus basalis of meynert or meynert basal nucleus or nucleus basalis magnocellularis or basal nucleus of meynert or meynert nucleus basalisor Cerebral Cortex or plates cortical or insular cortex or cerebral cortices or archipalliums or paleocortex or allocortices or periallocortices or plate cortical or cerebri cortex or cortices cerebral or paleocortices or cortices insular or insular cortices or cortex insular or periallocortex or archipallium or cortical plates or cortex cerebral or cortex cerebri or reil insula or cortex cerebrus or

cortical plate or Frontal Lobe or gyrus anterior centralor central gyrus anterior or lobe frontalor frontal lobeor cortex frontal or gyrus precentralis or frontal eye fieldor supplementary eye field or gyrus precentrali or frontali lobusor precentrali gyrus or frontal lobes or frontal cortex or field supplementary eye or lobes frontal or eye field supplementary or lobus frontali or supplementary eye fields or frontalis lobus or gyrus precentral or eye fields supplementary or eye fields frontal or anterior central gyrus or fields frontal eye or lobus frontalis or Motor Cortex or motor area or primary motor cortex or motor area precentral or strip motor or somatomotor areas or strips motor or motor cortices primary or premotor areas or motor area secondary or cortex precentral motor or motor area somatic or supplementary motor areas or area primary motoror area premotor or secondary motor area or motor cortices secondary or area motor or secondary motor areas or area somatomotor or motor areas or motor cortex secondary or precentral motor areas or cortices secondary motor or area supplementary motor or motor areas supplementary or area precentral motor or cortices primary motor or precentral motor cortices or areas somatic motor or area somatic motor or areas motor or motor cortex precentral or motor areas precentral or motor strips or cortex primary motor or somatomotor area or premotor area or precentral motor cortex or primary motor area or somatic motor area or motor areas somatic or areas premotor or areas somatomotor or areas precentral motor or areas supplementary motor or motor cortex primary or cortex secondary or motor primary motor cortices or motor cortex or motor cortices precentral or motor area supplementary or cortices precentral motor or somatic motor areas or cortex motor or areas secondary motor or Prefrontal Cortex or orbital gyrus).ab,kw,ti.

7. (gyrus orbital or sulcus olfactoryor convolutions superior frontal or orbitofrontal cortices lateral or gyrus frontalis superior or rectal gyrusor cortices ventromedial prefrontal or orbital cortices or cortex orbital or prefrontal cortices ventromedial or inferiors gyrus frontalis or orbital gyri or orbital area or convolution superior frontal or frontalis superiors gyrus or inferior frontal gyrus or gyri orbitofrontal or orbitofrontal regions or frontalis inferiors gyrus or frontal sulcus or prefrontal cortex ventromedial or straight gyrus or cortex lateral orbitofrontal or gyrus frontalis inferior or sulci olfactory or orbital areas or orbitofrontal gyri or area orbital or orbitofrontal region or cortices lateral orbitofrontal or lateral orbitofrontal cortex or superior frontal convolution or cortex orbitofrontal or medial frontal gyrus or gyrus orbitofrontal or gyrus straight or superior frontal gyrus or frontal gyrus medial or ventromedial prefrontal cortex or gyrus rectal or subcallosal area or olfactory sulcus or prefrontal cortex or superior frontal convolutions or sulcus frontal or olfactory sulci or region orbitofrontal or superiors gyrus frontalis or superior gyrus frontalis or gyrus superior frontal ororbitofrontal cortex or frontal gyrus inferior or gyrus frontalis inferiors or cortex ventromedial prefrontal or marginal gyrus or rectus gyrus or orbital cortex or gyrus medial frontal or orbitali gyrus or orbitofrontal gyrus or inferior gyrus frontalis or frontal gyrus superior or gyri orbital or areas orbital or cortex prefrontal or cortices orbital or gyrus rectus or frontalis superior gyrus or lateral orbitofrontal cortices or orbitofrontal cortices or gyrus frontalis superiors or orbitofrontal cortex lateral or gyrus marginal or Broca Area or Neocortex or neocortical molecular layer or neocortices cerebral or isocortex or cerebral neocortices or neopalliumsor corticalis substantiaor multiform layer neocortical or neocortical multiform layer or layer neocortical molecular or cortices neopallial or neopallial cortex or neocortical internal pyramidal layer or molecular layer neocortical or neopallial corticesor cortex neopallial or layers neocortical multiform or neocortex cerebralor molecular layers neocortical or neocortical internal granular layer or neocortical multiform layers or cerebral neocortex or neocortical external pyramidal layer or neocortical molecular layers or isocortices or external granular layer or substantia corticali or corticali substantia or layer neocortical multiformor multiform layers neocortical or Occipital Lobe or occipital cortex or cuneus or gyrus annectant or sulcus lunate or gyrus lingual or gyrus occipitalor calcarine fissures or regions occipital or occipitotemporal gyrus medial or sulcus calcarine or lunate sulcus or occipital lobe or gyrus medial occipitotemporal or cuneate lobule or region occipital or fissures calcarine or calcarinus sulcus or sulcus calcarinus or lobe occipital or lobes occipital or occipital region or gyrus lingualis or occipital gyrus or annectant gyrus or occipital regions or lobules cuneate or occipital sulcus or cortices occipital or calcarine sulcus or fissure calcarine or lingual gyrus or lobule cuneate or cortex cuneus or linguali gyrus or Visual Cortex or primary visual cortices or visual cortex primaries or primaries visual cortex or cortices extrastriate or visual cortices primary or extrastriate cortices or cortex primaries visual or cortex primary visual or striate cortex or cortices primary visual or visual cortex primary or visual cortex or cortex striate or cortex extrastriate or cortex visual or extrastriate cortex or primary visual cortex or Olfactory Cortex or Basal Forebrain or Piriform Cortex or sulcus intraparietal or regions parietal or lobes parietal or paracentral lobules posterior or gyrus supramarginal or precuneus cortices or parietal cortex or gyrus angulari or praecuneus or gyrus angularis or gyrus supramarginali or parietal regions or gyrus prelunate or lobules parietal or lobe parietal or parietal cortices posterior or gyrus supramarginalis or angulari gyrus or supramarginali gyrus or marginal sulcus or posterior parietal cortex or prelunate gyrus or posterior parietal cortices or intraparietal sulcus or angularis gyrus or region parietal or parietal lobules or precuneus or cortex parietal or gyrus angular or precuneus cortex or lobule parietal or parietal lobule or cortices precuneus or posterior paracentral lobule or lobules posterior paracentral or sulcus marginal or posterior paracentral lobules or Parietal Lobe or sulcus intraparietal or regions parietal or lobes parietal or paracentral lobules posterior or gyrus supramarginal or precuneus cortices or parietal cortex or gyrus angulari or praecuneus or gyrus angularis or gyrus supramarginali or parietal regions or gyrus prelunate or lobules parietal or lobe parietal or parietal cortices posterior or gyrus supramarginalis or angulari gyrus or supramarginali gyrus or marginal sulcus or posterior parietal cortex or prelunate gyrus or posterior parietal cortices or intraparietal sulcus or angularis gyrus or

region parietal or parietal lobules or precuneus or cortex parietal or gyrus angular or precuneus cortex or lobule parietal or parietal lobule or cortices precuneus or posterior paracentral lobule or lobules posterior paracentral or sulcus marginal or posterior paracentral lobules or omatosensory Cortex or postcentral gyrus or somatosensory cortices primary or somatosensory cortex primary or cortex anterior parietal or cortices anterior parietal or cortices primary somatosensory or anterior parietal cortices or cortex secondary sensory or areas primary somatosensory or primary somatosensory cortices or cortex si or gyrus post central or secondary somatosensory areas or post central gyrus or parietal cortices anterior or gyrus postcentrali or secondary somatosensory cortex or somatosensory cortex or areas secondary somatosensory or somatosensory cortex secondary or area primary somatosensory or postcentralis gyrus or cortices secondary sensory or secondary sensory cortex or primary somatosensory cortex or somatosensory areas secondary or si cortex or primary somatosensory areas or secondary somatosensory cortices or gyrus postcentralis or area secondary somatosensory or primary somatosensory area or cortex primary somatosensory or secondary somatosensory area or secondary sensory cortices or cortices secondary somatosensory or primary somatic sensory area or postcentrali gyrus or gyrus postcentral or Wernicke Area or Sensorimotor Cortex or Auditory Cortex or gyrus transverse temporal or auditory areas temporal or temporal auditory areas or areas auditory or cortex primary auditory or transverse temporal gyrus or cortex auditory or auditory areas or transverse temporal gyri or convolutions heschl's or auditory cortex or auditory area or auditory cortex primary or auditory cortices primary or areas temporal auditory or area auditory or gyri transverse temporal or primary auditory cortices or heschl gyri or heschl convolutions or temporal gyri transverse or auditory area temporal or temporal auditory area or heschls gyri or primary auditory cortex or Temporal Lobe or temporal operculums or superior temporal gyrus or occipito-temporal gyrus lateral or gyrus fusiform or gyrus lateral occipito-temporal or gyrus temporalis superior or occipitotemporal gyrus or horns temporal or inferior horn of lateral ventricle or temporal sulcus or regions temporal or operculums temporal or cortex temporal or lobes temporal or planum polares or temporalis superior gyrus or gyrus superior temporal or horn temporal or lobe temporal or temporal horn or temporal cortices or gyrus lateral occipitotemporal or temporalis superiors gyrus or region temporal or fusiformi gyrus or temporal region or temporal horns or lateral occipito-temporal gyrus or temporal cortex or gyrus temporal or temporal operculum or temporal regions or operculum temporal or cortices temporal or temporal horn of the lateral ventricle or polare planum or fusiformis gyrus or sulcus temporal or polares planum or planum polare or temporal lobe or Diagonal Band of Broca or diagonal band of broca or broca diagonal band or External Capsule or olfactory tracts or olfactory tract lateral or main olfactory bulbs or bulbs main olfactory or bulb olfactory or glomerulus olfactory or lateral olfactory tracts or olfactory tract or bulb main olfactory or olfactory bulbs or olfactory bulb main or accessory olfactory bulb or accessory olfactory bulbs or tracts olfactory or bulbs accessory olfactory or olfactory glomerulus or bulbs olfactory or olfactory bulb accessory or tract olfactory or bulb accessory olfactory or tract lateral olfactory or olfactorius bulbus or olfactory bulb or lateral olfactory tract or Olfactory Bulb or olfactory tracts or olfactory tract lateral or main olfactory bulbs or bulbs main olfactory or bulb olfactory or glomerulus olfactory or lateral olfactory tracts or olfactory tract or bulb main olfactory or olfactory bulbs or olfactory bulb main or accessory olfactory bulb or accessory olfactory bulbs or tracts olfactory or bulbs accessory olfactory or olfactory glomerulus or bulbs olfactory or olfactory bulb accessory or tract olfactory or bulb accessory olfactory or tract lateral olfactory or olfactorius bulbus or olfactory bulb or lateral olfactory tract or Telencephalic Commissures or Anterior Cerebellar Commissure or Corpus Callosum or corpus callosums or commissures neocortical or neocortical commissures or corpus callosum or callosums corpus or interhemispheric commissure or interhemispheric commissures or neocortical commissure or callosum corpus or commissures interhemispheric or commissure interhemispheric or commissure neocortical or Internal Capsule or internal capsules or interna capsula or capsules internal or capsule internal or capsula internas or internal capsule or capsula interna or internas capsula or Myelencephalon).ab,kw,ti.
8. (animal not human).ab,kw,ti.
9. (in vitro not in vivo).ab,kw,ti.
10. 4 or 5 or 6 or 7
11. ((((Alzheimer* or dement* or ase or amentia* or mild) adj2 cognitive adj2 impairment) or cognitive) adj2 decline).ti,ab,kw.
12. alzheimer*.ti,ab,kw.
13. ase.ti,ab,kw.
14. (mild adj2 cognitive adj2 impairment).ti,ab,kw.
15. (cognitive adj2 decline).ti,ab,kw.
16. dement*.ti,ab,kw.
17. amentia*.ti,kw,ab.
18. 12 or 13 or 14 or 15
19. 12 or 13 or 14 or 15 or 16 or 17
20. 3 and 10 and 18 → actual used
21. 3 and 10 and 19



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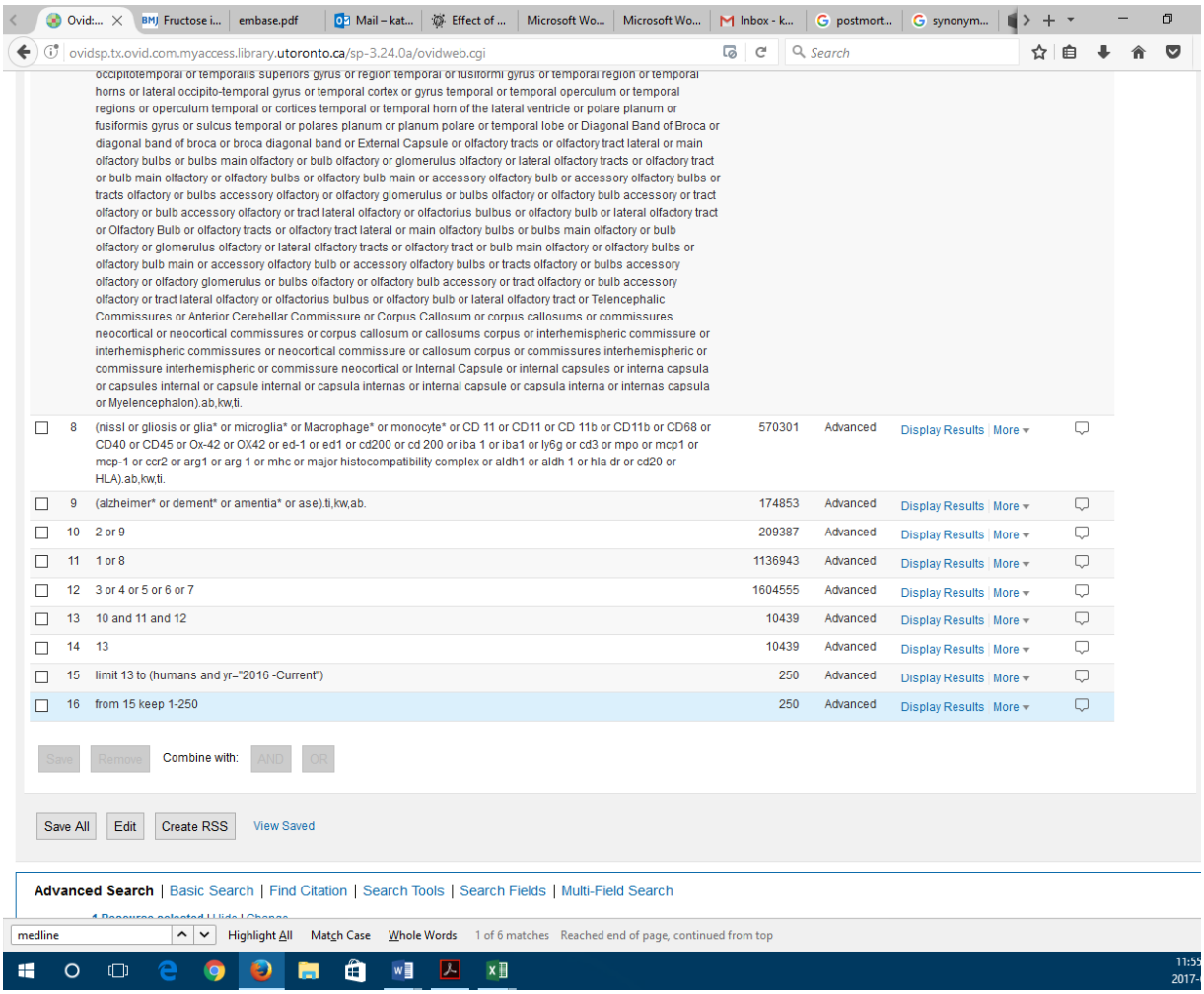


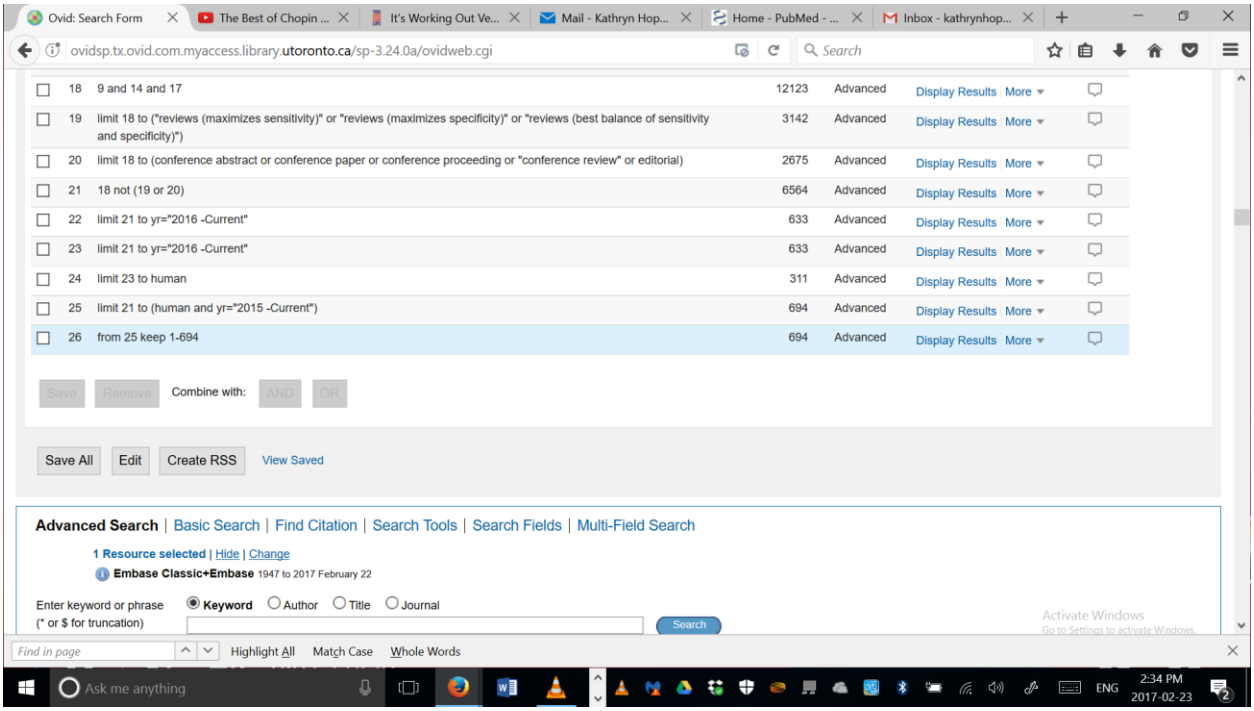
Microglia terms:

(nissl or gliosis or glia* or microglia* or Macrophage* or monocyte* or CD 11 or CD11 or CD 11b or CD11b or CD68 or CD40 or CD45 or Ox-42 or OX42 or ed-1 or ed1 or cd200 or cd 200 or Iba 1 or Iba1 or ly6g or cd3 or mpo or mcp1 or mcp-1 or ccr2 or arg1 or arg 1 or mhc or major histocompatibility complex or aldh1 or aldh 1 or hla dr or cd20 or HLA).ab,kw,ti.

exp neuroglia/ or exp leukocytes/ or exp antibody-producing cells/ or exp antigen-presenting cells/ or exp neurogenic inflammation/

EMBASE update from 2015 to feb 23rd 2017

Repeated only for microglia terms excluding reviews and conference proceedings



PsychInfo update from 2015 to feb 23rd 2017

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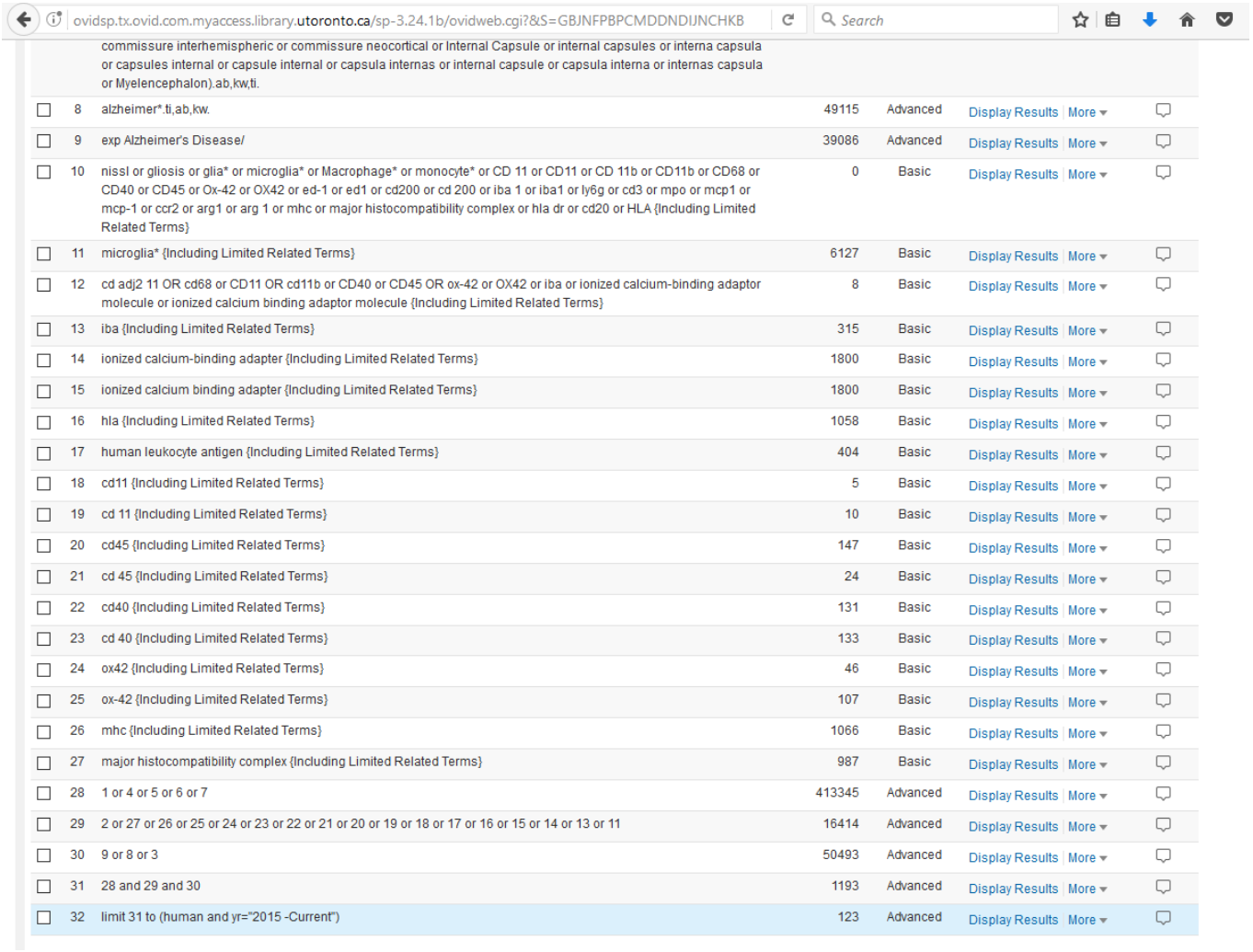

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		commissure interhemispheric or commissure neocortical or Internal Capsule or internal capsules or interna capsula or capsules internal or capsule internal or capsula internas or internal capsule or capsula interna or internas capsula or Myelencephalon).ab,kw,ti.				
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☐	15	ionized calcium binding adapter {Including Limited Related Terms}	1800	Basic	Display Results | More	
☐	16	hla {Including Limited Related Terms}	1058	Basic	Display Results | More	
☐	17	human leukocyte antigen {Including Limited Related Terms}	404	Basic	Display Results | More	
☐	18	cd11 {Including Limited Related Terms}	5	Basic	Display Results | More	
☐	19	cd 11 {Including Limited Related Terms}	10	Basic	Display Results | More	
☐	20	cd45 {Including Limited Related Terms}	147	Basic	Display Results | More	
☐	21	cd 45 {Including Limited Related Terms}	24	Basic	Display Results | More	
☐	22	cd40 {Including Limited Related Terms}	131	Basic	Display Results | More	
☐	23	cd 40 {Including Limited Related Terms}	133	Basic	Display Results | More	
☐	24	ox42 {Including Limited Related Terms}	46	Basic	Display Results | More	
☐	25	ox-42 {Including Limited Related Terms}	107	Basic	Display Results | More	
☐	26	mhc {Including Limited Related Terms}	1066	Basic	Display Results | More	
☐	27	major histocompatibility complex {Including Limited Related Terms}	987	Basic	Display Results | More	
☐	28	1 or 4 or 5 or 6 or 7	413345	Advanced	Display Results | More	
☐	29	2 or 27 or 26 or 25 or 24 or 23 or 22 or 21 or 20 or 19 or 18 or 17 or 16 or 15 or 14 or 13 or 11	16414	Advanced	Display Results | More	
☐	30	9 or 8 or 3	50493	Advanced	Display Results | More	
☐	31	28 and 29 and 30	1193	Advanced	Display Results | More	
☐	32	limit 31 to (human and yr="2015 -Current")	123	Advanced	Display Results | More	