No.	target keyphrases	keyphrases by TextRank	keyphrases by Zuo et al.	keyphrases by WESIA
1	1. RNA-binding proteins 2. amyotrophic lateral sclerosis 3. granules 4. heat shock 5. motor neuron disease 6. neurodegeneration 7. phase separation 8. ribonucleoprotein 9. stress	1. neurotoxicity in vivo 2. amyotrophic 3. pre-existing 4. autophagy 5. ribonucleoprotein 6. subcellular distribution 7. neurodegeneration 8. neurodegeneration-linked 9. SG-associated	1. pre-existing SG 2. Drosophila ALS/FTD 3. SGs 4. neurodegeneration 5. SG 6. in vivo 7. Stress 8. ALS 9. ribonucleoprotein	1. neuronal SGs 2. pre-existing SG protein interaction network 3. unknown human SG 4. SG diversity 5. ascorbate peroxidase 6. cellular stress 7. compositional diversity 8. SG-associated 9. human neurodegeneration
2	1. RNA homeostasis 2. age-related neurodegenerative diseases 3. amyotrophic lateral sclerosis 4. molecular chaperone complexes 5. phase separation 6. protein homeostasis 7. stress granules	1. amyotrophic 2. cellular 3. HSPB8-BAG3-HSP70 4. participate 5. intricate 6. Molecular 7. p97/valosin	1. such RNA-protein 2. liquid-like SGs 3. age-related neurodegenerative 4. aggregation-prone RNA-binding 5. fronto-temporal dementia 6. review article	1. specific protein quality control 2. protein synthesis 3. such RNA-protein 4. quality control process 5. control RNP 6. discuss recent insight 7. aberrant SGs
3	1. 3D culture 2. ARS-1620 3. G12C 4. KRAS 5. NSCLC 6. RAS 7. addiction 8. dependence 9. oncogene	1. promising therapeutic 2. druggable 3. allele-specific 4. to in vivo 5. KRASG12C 6. inactive-GDP 7. active-GTP 8. accessibility 9. occupancy	1. KRAS in vitro 2. II pocket 3. structure-based design and 4. KRASG12C 5. ARS-1620 6. in vivo 7. S-IIP8. KRAS 9. inactive-GDP	1. inducible allosteric switch II pocket 2. vivo target occupancy 3. oncogenic KRAS dependency 4. vivo evidence 5. allele-specific covalent targeting 6. vitro 7. KRASG12C-specific 8. promising therapeutic potential 9. high potency
4	1. Amyotrophic lateral sclerosis 2. C9orf72 3. Calcium dysregulation 4. Frontotemporal dementia 5. Induced pluripotent stem cells 6. Motor neurons	1. 34:2063-2078 2. amyotrophic 3. hexanucleotide 4. Furthermore 5. functional 6. evidence	1. C9orf72 iPSC-derived motor 2. C9orf72 hexanucleotide 3. Stem Cells 4. C9orf72 motor 5. iPSC-derived motor	1. abnormal protein aggregation 2. C9orf72 iPSC-derived motor 3. antiapoptotic protein Bcl-2 4. stress granule formation 5. related neurodegenerative disease frontotemporal dementia 6. amyotrophic lateral sclerosis

Table 1: Supplementary table 1 of the full comparison list for test set C.

No.	target keyphrases	keyphrases by TextRank	keyphrases by Zuo et al.	keyphrases by WESIA
5	1. amyotrophic lateral sclerosis 2. fluorescence imaging 3. genetics 4. pathology	1. C9orf72+ 2. peripheral 3. functional 4. sequestration	1. expanded C9orf72 pre-messenger RNA 2. messenger RNA nuclear export 3. t-test P < 4. GGGGCC repeat RNA	1. cytoplasmic RNA foci 2. toxic RNA foci 3. GGGGCC repeat expansion 4. whole neuronal proteome investigation
6	1. ASF/SF2 2. Amyotrophic Lateral Sclerosis (Lou Gehrig Disease) 3. C9orf72 4. G-quadruplex 5. RNA 6. RNA Structure 7. RNA-Protein Interaction 8. RNA-binding Protein 9. TMPyP4 10. hnRNPA1	1. n-containing 2. repeat-binding 3. structure formation 4. hnRNPA1 5. sequestration 6. stability 7. pathologic dipeptide 8. G-quadruplex-forming 9. N-methyl-4-pyridyl 10. pathogenesis	1. repeat tract length-dependent G-quadruplex 2. C9orf72 repeat RNA 3. repeat-associated non-AUG translation 4. C9orf72 RNA 5. Mutant r 6. RAN translation 7. Certain DNA 8. C9orf72 repeat 9. avenue 10. G-quadruplex	1. C9orf72 repeat RNA 2. noncanonical repeat-associated non-AUG translation 3. ASF/SF2 protein 4. secondary structure formation 5. RNA structure 6. cationic porphyrin 7. repeat tract length-dependent G-quadruplex 8. C9orf72 RNA 9. protein sequestration 10. toxic RNA pathogenesis
7	1. lipidomic profile 2. metabolic profile 3. metastasis 4. suspension cells	1. metabolic 2. long-term suspension 3. metastasis 4. MDA-MB-468 suspension	1. MDA-MB-468 suspension 2. long-term suspension 3. CTC-mimicking suspension 4. passaged suspension	1. long-term suspension cell culture model 2. CTC-mimicking suspension cell culture model 3. glutamate metabolic pathway 4. metastatic cancer
8	1. Association study 2. Celiac disease 3. Gene expression 4. SNP 5. Transcriptome 6. eQTL	1. autoimmune 2. peripheral 3. functional 4. community 5. epithelial 6. gluten-consuming	1. gluten-consuming CD 2. Recent large-scale 3. T helper 4. CD 5. SNPs 6. nonceliac	1. autoimmune disease 2. CD research community 3. Celiac disease 4. gluten-consuming CD 5. immunogenic gliadin 6. several whole transcriptome
9	1. Cardiac output 2. Diastolic dysfunction 3. Echocardiography 4. Ejection fraction 5. Heart failure 6. Hemodynamic profiles 7. Natriuretic peptides 8. Prognosis 9. Pulmonary capillary wedge pressure	1. pulsed-wave blood-flow 2. abnormal 3. valuable 4. Therefore 5. symptom-guided 6. management 7. patient-centered follow-up 8. circulating 9. elevated	1. elevated LV filling 2. Doppler echocardiographic 3. serial NP 4. pulsed-wave blood-flow 5. patient-centered follow-up 6. Frequent office 7. LV filling 8. Chronic heart 9. NP circulating	1. elevated LV filling 2. abnormal LV filling 3. ambulatory HF management 4. HF result 5. overt HF 6. important public health problem 7. high morbidity 8. specific patient-centered follow-up care 9. serial NP

Table 2: Supplementary table 2 of the full comparison list for test set B.

No.	target keyphrases	keyphrases by TextRank	keyphrases by Zuo et al.	keyphrases by WESIA
10	1. brain cancer 2. microglia 3. neurodegeneration 4. neuroinflammation 5. virus infection	1. development 2. different 3. neurogenesis 4. developing 5. residential	1. blood-brain barrier 2. special origin 3. early stage 4. central nervous 5. Microglia	1. developing CNS 2. CNS development 3. central nervous system 4. adult homeostasis 5. embryonic yolk sac
11	1. Genetics 2. Mitochondria 3. Parkinsons disease 4. Quality control 5. Risk factors	1. HSPA9 2. RHOT1 3. sporadic 4. mitochondrial-derived 5. dysfunctional organelle	1. sporadic PD 2. several disease-related 3. Mitochondrial 4. PARK5. such	1. mitochondrial quality control machinery 2. mitochondrial impairment 3. Mitochondrial impairment 4. mitochondrial respiratory chain 5. sporadic PD
12	1. CD33 2. Innate immunity 3. Lectin 4. Rock bream 5. Siglec	1. inflammatory 2. sequence 3. peripheral 4. cytoplasmic 5. pathogen stimulation	1. red seabream iridovirus 2. RbCD33 mRNA 3. real-time PCR 4. RSIV challenge 5. rock bream	1. spleen tissue 2. myeloid-specific inhibitory receptor 3. head kidney tissue 4. transmembrane protein 5. RbCD33 mRNA
13	1. HMB 2. creatine 3. curcumin 4. dietary supplements 5. gelatin 6. omega 3 fatty acids; 7. probiotics 8. tart cherry juice 9. vitamin D	1. 3-fatty 2. exercise performance 3. ergogenic 4. anti-inflammatory 5. deficiency 6. adaptation 7. curcumin 8. and/or collagen 9. beta-methyl butyrate	1. curcumin/tart cherry juice 2. tart cherry juice 3. and/or lean mass 4. Omega 3-fatty 5. Beta-hydroxy beta-methyl 6. and/or compete 7. omega 3-fatty 8. competitive performance 9. and/or	1. vitamin D insufficiency 2. several dietary 3. gelatin and/or collagen 4. mild traumatic brain injury 5. Omega 3-fatty acid supplementation 6. curcumin/tart cherry juice 7. Several dietary 8. Other dietary 9. exercise adaptation
14	1. AMPK 2. EZH2 3. metformin 4. ovarian cancer 5. phosphorylation 6. polycomb repressive complex 2	1. polycomb repressive 2. interaction 3. PRC2-dependent methylation 4. survival 5. correlation 6. component	1. methyltransferase EZH2 2. AMPK 3. EZH2 4. PRC2 5. pT311-EZH2 6. such	1. AMP-activated protein kinase 2. activation 3. histone methyltransferase EZH2 4. protein synthesis 5. tumor cell growth 6. autophagy
15	1. Aging 2. Brain biopsies 3. Fasting 4. High-fat diet	1. downregulated 2. cellular metabolism 3. Comparing 4. possible strategy	1. NCBI Gene Expression Omnibus 2. Comparing mouse 3. aged mouse 4. other hand	1. Comparing mouse brain transcriptome 2. aged mouse brain transcriptome 3. fasting duration 4. suitable microarray

Table 3: Supplementary table 3 of the full comparison list for test set B.

No.	target keyphrases	keyphrases by TextRank	keyphrases by Zuo et al.	keyphrases by WESIA
16	1. Notch signaling 2. astrocytes 3. blood-brain barrier 4. drug kinetics 5. endothelial cells 6. induced pluripotent stem cells 7. neurons 8. pericytes 9. permeability 10. vasculature	1. endothelial 2. consistent 3. nanoLC-MS/MS 4. pathology 5. permeability 6. technology 7. research 8. specification 9. hiPSC-derived 10. microenvironment	1. in vitro BBB 2. Neuron-derived Dll1 3. ECs 4. BBB 5. BECs 6. in vitro 7. crossing 8. BEC 9. nanoLC-MS/MS 10. PGP	1. vitro BBB permeability 2. brain endothelial 3. human BBB physiology 4. vitro model 5. high expression 6. selective substance crossing 7. strong barrier function 8. human induced pluripotent stem 9. blood-brain barrier 10. BECs
17	1. Antiangiogenic agents 2. Brain neoplasms 3. Central nervous system neoplasms 4. Child 5. Clinical trial 6. Phase I 7. Tumor microenvironment	1. DLT-evaluable 2. peripheral 3. effector 4. temozolomide 5. CNS 6. somnolence 7. thrombocytopenia	1. mg/m2 twice daily 2. mg/m2/dose twice daily 3. 4-week dose-limiting 4. Single agent 5. mg/m2 daily 6. pre-treated population 7. CNS	1. 4-week dose-limiting toxicity 2. lenalidomide 3. + 4. mg/m2/dose twice daily 5. temozolomide 6. mg/m2 twice daily 7. refractory primary CNS
18	1. Antibiotic resistance 2. First-line therapy 3. Guidelines 4. Helicobacter pylori 5. Internist 6. Management 7. Therapy	1. gastroenterological literature 2. selection 3. antibiotic 4. Eradication 5. deficiency 6. first-line 7. management	1. Several new 2. gastroenterological literature 3. Eradication 4. first-line 5. thrombocytopenic 6. Helicobacter 7. iron	1. first-line anti-H. pylori 2. peptic ulcer disease 3. Helicobacter pylori 4. iron deficiency anemia 5. dyspepsia 6. global ill health due 7. idiopathic thrombocytopenic purpura
19	1. Kir6. 1 2. Mitochondrial biogenesis 3. Mitochondrial fission/ fusion 4. Parkinson's disease 5. Rotenone 6. mitoKATP channel	1. fission/fusion 2. mitochondrial ATP-sensitive 3. consistent 4. PC12 5. diazoxide 6. contributor	1. common age-related neurodegenerative disease 2. rotenone-induced PD model 3. rotenone-induced PD 4. mitoKATP channel 5. key contributor 6. rotenone-induced	1. rotenone-induced PD model 2. mitochondrial ATP-sensitive potassium channel 3. common age-related neurodegenerative disease 4. Mitochondrial dysfunction 5. mitochondrial biogenesis 6. rotenone-induced dopamine neurodegeneration

Table 4: Supplementary table 4 of the full comparison list for test set B.

No.	target keyphrases	keyphrases by TextRank	keyphrases by Zuo et al.	keyphrases by WESIA
20	1. Alzheimers disease 2. FACS 3. RNA-seq 4. gene expression 5. microglia 6. microgliosis 7. myeloid neurodeg8. eneration 9. neuroinflammation 10. tauopathy	1. microglial subsets-distinct 2. proliferation 3. transcriptional 4. searchable 5. the neurodegeneration-related 6. tauopathy 7. activation 8. co-regulated 9. CNS-resident 10. therapeutic intervention	1. whole-tissue RNA 2. new AD 3. new tauopathy 4. CNS 5. AD 6. co-regulated 7. CNS-resident 8. Microglia 9. neurodegenerative 10. the neurodegeneration-related	1. CNS myeloid cell activation 2. new AD dataset 3. AD tissue 4. disease-associated microglia 5. new tauopathy model 6. human disease 7. possible activation 8. microglial subsets-distinct 9. gene expression 10. elevated expression

Table 5: Supplementary table 5 of the full comparison list for test set C.