

Research Classification Code Definitions & Guidance

Contents

Standard Research Classification (SRC) Codes	2
Scientific Classification System (SCS) Codes	4
SCS Categories:	4
0100: Cell Biology	6
0200: Genetics and Molecular Biology	7
0300: Endocrinology	8
0400: Pathobiology	9
0500: Immunology	11
0600: Primary Prevention	12
0700: Detection and Diagnosis	13
0800: Clinical and Experimental Therapeutics	14
0900: Complementary and Alternative Medicine	16
1000: Health Care Delivery	17
1100: Biobehavioral Sciences	18
1200: Epidemiology	19
1300: Research Resources	20
1400: Neuroscience	21
1500: Computational Biology	22
1600: Devices	23

Standard Research Classification (SRC) Codes Code Definitions and Guidance

Code	Definition
Technology Development *No human or animal subjects	The generation and/or modification of technology (either physical or virtual) or instruments or tools. Does not include animal or human participant research. If the project does include testing in animal models or human participants, it should be coded as Pre-Clinical Translational Research or Clinical Research and Trials, respectively.
Discovery/Basic Research *No human subjects	Fundamental research for the generation of new ideas, knowledge, hypotheses, models, or preliminary data to support applied and more advanced research. Projects that are utilizing cell models/in vitro systems, regardless of cell origin, should be considered basic/discovery research.
Pre-Clinical Translational Research *Animal models, but no human subjects	Research utilizing basic research findings to develop material and knowledge products to prevent, diagnose, or treat diseases/conditions. This includes research that studies the transfer and evaluation of results from the laboratory to the clinic such as pre-IND/IDE work. Projects may include testing using animal models and animal validation. In vitro studies that utilize human data or specimens that cannot be linked to a living individual and meet the requirements for exemption under §46.104(d)(4) of the Common Rule should be coded within this category.
	<i>A clinical trial is defined</i> in the Code of Federal Regulations, Title 45, Part 46.102 (45 CFR 46.102) as a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include a placebo or another control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes.
	Clinical research encompasses research with human data, human specimens, and/or interaction with human subjects. Clinical research is observational in nature and includes:
Clinical Research and Trials *Human subjects	(1) Research conducted with human subjects and/or material of human origin such as data, specimens, and cognitive phenomena for which an investigator (or co-investigator) does not seek to assess the safety, effectiveness, and/or efficacy outcomes of an intervention. Research meeting this definition may include but is not limited to: (a) mechanisms of human disease; (b) diagnostic or detection studies (e.g., biomarker or imaging); (c) health disparity studies; and (d) development of new technologies.
	(2) Epidemiologic and behavioral studies that do not seek to assess the safety, effectiveness, and/or efficacy outcomes of an intervention.
	(3) Outcomes research and health services research that do not fit under the

definition of clinical trial.
Excluded from the definition of clinical research are in vitro studies that utilize human data or specimens that cannot be linked to a living individual and meet the requirements for exemption under <u>§46.104(d)(4) of the</u> <u>Common Rule</u> , which should be coded as Pre-Clinical Translational Research.

Scientific Classification System (SCS) Codes Code Definitions and Guidance

SCS Categories:

SCS Code	Category Name	Definition
0100	Cell Biology	Covers the study of the cell and its structure, including cellular organization, regulation, composition, and functior on normal and transformed cells.
0200	Genetics and	Covers studies on the molecular structures and events
	Molecular Biology	underlying biological processes, especially the relation between genes and the functional characteristics they determine.
0300	Endocrinology	Covers studies on the structure and function of endocrine glands, their products, and their control, to include hormones and their receptors.
0400	Pathobiology	Covers studies on the pathobiology of cells and tissues specifically related to the development of disease or injury.
0500	Immunology	Covers studies of the cell mediated and humoral aspects of immunity and immune responses excluding therapeutic manipulations of the immune system.
0600	Primary Prevention	Covers studies on the prevention of disease or injury.
0700	Detection and	Covers the study of improved detection, diagnostic and
	Diagnosis	prognostic techniques. Includes studies investigating
		disease/injury presence and potential responses to prevention and treatment strategies.
0800	Clinical and	Covers studies on agents and devices to assess their use in
	Experimental Therapeutics	treatment. Includes model systems ranging from cell cultures to animals and humans.
0900	Complementary	Covers studies of treatments and practices that reflect
	and Alternative	nontraditional forms of intervention or supportive
	Medicine	methods that complement or add to mainstream treatments.
1000	Health Care	Covers studies assessing the delivery of disease or injury
	Delivery	prevention, detection, treatment and rehabilitation services.
1100	Biobehavioral	Covers studies describing knowledge, attitudes and
	Sciences	behavior in defined populations and assessing the
		relationship(s) between behavioral and social functioning
		and disease or injury initiation, progression, detection, treatment, and rehabilitation.
1200	Epidemiology	Covers population-based observational research studies
		of the distribution of disease/injury as well as the
		behavioral and/or biological determinants of
		disease/injury risk, initiation/occurrence, progression,
		detection and/or prognosis.
1300	Research Resources	Covers support for the development and/or
		maintenance of institutional, regional, or national
		resources to sustain biomedical research.

Scientific Classification System (SCS)

SCS Code	Category Name	Definition
1400	Neuroscience	Covers studies pertaining to the chemistry and biology of the central and peripheral nervous systems.
1500	Computational Biology	Covers studies that utilize mathematical models and numerical solutions to analyze biological systems or expand the usefulness of scientific data.
1600	Devices	Covers studies of an instrument, apparatus, implement, machine, implant, or other similar or related article, including software, a component part, or accessory, which is intended for use in the diagnosis, assessment, cure, mitigation, treatment, or prevention of a disease, disorder, or injury.

SCS Code	Category Name	Definition
0101	Cell Cycle	Covers studies on the sequence and regulation of cellular events between mitotic divisions.
0102	Cellular Structure	Covers studies on cell size, shape, and polarity, as well as subcellular structures such as the cell nucleus, mitochondria, peroxisomes, lipid droplets, autophagosomes, cytoskeleton, primary cilia, and membrane microdomains. Also includes studies on cell motility.
0103	Growth Factors/Cytokines	Covers studies on polypeptides and their receptors which control the ontogeny and maintenance of tissue form and function.
0104	Oncogenes	Covers studies on genes whose mutation or overexpression promotes tumor development/malignant phenotype.
0105	Tumor Suppressor Genes	Covers studies on genes whose mutation or inactivation leads to tumor development/malignant phenotype.
0106	Metabolism	Covers studies on the sum of all physical and chemical processes by which an organism is produced and maintained as well as the transformations by which energy is made available for use by the organism.
0107	Signal Transduction	Covers studies on the activation of intracellular response pathways.
0108	Structural Chemistry/ Structural Biology	Studies to determine the structure of biological compounds such as X-ray crystallography and nuclear magnetic resonance.
0109	Functional Study of Biological Molecules	Studies that determine the function of newly identified biological molecules or novel functions of previously studie molecules.
0110	Electrophysiology	Covers studies on the electrical properties of cells.
0111	Cellular Development	Covers studies on the development and differentiation of cells, including embryonic and adult stem cells but excluding cancer stem cells.
0112	Cell Adhesion	Covers the study of proteins and other macromolecules that are involved in mediating the recognition and adhesion of cells to their substrates and to other cells; including integrins, extracellular matrix, membrane bound proteins, and cytoskeletal components.
0199	Not Otherwise Specified	Covers studies in cell biology not otherwise specified in the other research areas.

Г

0201Chromosome StructureCovers studies on the organization of the DNA into a chromosome, and the accompanying chromosomal elements and staining and sequencing techniques.0202DNA Damage and RepairCovers studies on the mechanisms of DNA damage as w as the enzymatic correction of errors in DNA structure a sequence.0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.	SCS Code	Category Name	Definition
Otocureelements and staining and sequencing techniques.0202DNA Damage and RepairCovers studies on the mechanisms of DNA damage as w as the enzymatic correction of errors in DNA structure a sequence.0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.0205][Removed][Removed]0206[Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.	0201		Covers studies on the organization of the DNA into a
0202DNA Damage and RepairCovers studies on the mechanisms of DNA damage as w as the enzymatic correction of errors in DNA structure is sequence.0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.0205[Removed][Removed]0206[Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.		Structure	chromosome, and the accompanying chromosomal
Repairas the enzymatic correction of errors in DNA structure a sequence.0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.0205][Removed][Removed]0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.		Structure	elements and staining and sequencing techniques.
Nepulationsequence.0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.[0205][Removed][Removed][0206][Removed][Removed][0207]GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteom0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.	0202	DNA Damage and	Covers studies on the mechanisms of DNA damage as well
0203Genomic InstabilityCovers studies on genetic changes that result in new combinations of alleles and/or chromosomal modificat such as crossing over, deletions, translocations, and los heterozygosity.0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.(0205)[Removed][Removed](0206)[Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.		Repair	as the enzymatic correction of errors in DNA structure and
0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.0205][Removed][Removed][0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.		•	•
0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.(0205)[Removed][Removed](0206)[Removed][Removed](0207)GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.	0203	Genomic Instability	Covers studies on genetic changes that result in new
0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.[0205][Removed][Removed][0206][Removed][Removed][0207]GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			combinations of alleles and/or chromosomal modification
0204Familial and Hereditary DisordersCovers studies of genes and their products which cause disease in familial or hereditary clusters.[0205][Removed][Removed][0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			such as crossing over, deletions, translocations, and loss o
Hereditary DisordersCovers statules of genes and then products when endowed[0205][Removed][Removed][0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			heterozygosity.
DisordersDisorders[0205][Removed][Removed][0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of protein organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteio0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteio0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	0204		Covers studies of genes and their products which cause
[0205][Removed][Removed][0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteio0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			disease in familial or hereditary clusters.
[0206][Removed][Removed]0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expresse organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteio0208ProteomicsCovers the study of a set or subset of proteins expresse organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	[0005]		
0207GenomicsCovers the study of a set or subset of genes expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of genom0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. Al includes technology development in the field of protein0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
OutputOutpu			
0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	0207	Genomics	,
0208ProteomicsCovers the study of a set or subset of proteins expressed organelles, cells, tissue, disease states or organisms. A includes technology development in the field of proteo0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
O209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
O209 Transcription Covers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation. 0210 Translation and Modification Covers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	0208	Proteomics	
0209TranscriptionCovers studies on the process by which RNA is copied from a DNA template. This includes the study of the process and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
0210 Translation and Modification Covers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	0200	T	
Descriptionprocess and regulation of gene methylation, acetylation and phosphorylation.0210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.	0209	Transcription	
O210Translation and ModificationCovers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
0210 Translation and Covers studies on the process whereby proteins are generated from an RNA template. Also includes studies regulation and post-transcriptional gene silencing.			
Modification generated from an RNA template. Also includes studie regulation and post-transcriptional gene silencing.			
regulation and post-transcriptional gene silencing.	0210	Translation and	
		Modification	
0299 Not Otherwise Covers studies in molecular biology and genetics not	0200	Not Othorwise	
Specified otherwise specified in the other research areas.	0299		

1

Г

0300: Endocrinology		
SCS Code	Category Name	Definition
0301	Clinical	Covers studies of hormonal functions, ligand interactions,
	Endocrinology	and metabolism as it relates to bedside and clinical applications.
0302	Endocrine Pathogenesis	Covers studies on the role of hormones in the initiation and progression of disease.
0303	Hormone Metabolism	Covers studies of the biosynthesis, degradation, and enzymatic interconversions of hormones and structural
0304	Hormone Receptors	analogs. Covers studies related to membrane-bound or intracellular molecules that bind with high affinity to, or respond to, hormones.
0305	Mechanism of Hormone Action	Covers studies of interactions between a ligand, its receptor, and co-activators, in targeted metabolic processes, and the downstream consequences of these interactions.
0399	Not Otherwise Specified	Covers studies in endocrinology not otherwise specified in the other research areas.

SCS Code	Category Name	Definition
0401	Angiogenesis	Covers studies on neo-vascularization associated with wound healing and/or tumor growth.
0402	Apoptosis	Covers studies on the process of a particular form of a cell
		death, programmed cell death, characterized by specific
		morphologic and biochemical properties.
0403	Biomarkers	Covers studies of pre-clinical biomarkers or early
		development of biomarkers used as indicators for the
		predisposition, presence or progression of disease or injury
		Includes the study of detection agents for uncharacterized biomarkers.
0404	Chemical/ Physical	Covers studies on exposure to chemicals, environmental
	Pathogenesis	factors or toxins and their influence on the development
[0.405]	_	and progression of a disease, injury, or disorder.
[0405]	[Removed]	[Removed]
0406	Stromal-Epithelial Interactions	Covers studies on the role of the interaction of the stroma
0407	Cancer Stem Cells	and epithelial elements in the initiation of disease or injury Studies on identifying, isolating, or culturing the clonogeni
0407	Cancel Sterri Cens	pluripotent, self-renewing progenitor cells believed to be responsible for malignancy.
0408	Progression	Covers studies on the multistep stages to disease. This
	-	includes the transformation of cells to tumor cells through
		the different pathobiological phases (i.e. hyperplasia,
		metaplasia, dysplasia, anaplasia, neoplasia). The studies
		may focus on the mutagenic causes, regulation, and/or the
		mechanism of carcinogenesis.
0409	Invasion	Covers studies to examine the ability of tumor cells to
		penetrate the microenvironment of the primary site. This
		includes studies to analyze the factors influencing
		infiltration (i.e. cell motility, matrix, chemotactic factors, anchorage independence, cell-cell interaction).
0410	Metastasis	Covers studies to examine the characteristics of cancerous
		lesions that are not the primary cancer site. These studies
		may include the differential analysis of metastatic lesions
		with respect to the primary tumor, the factors influencing
		tumor implantation at distant sites, or host-tumor
		interactions at the metastatic locale.
0411	Tumor	Covers studies that seek to characterize and define
	Heterogeneity	subpopulations or clonal populations of cells within a
		tumor or an individual. Also includes studies that seek to
		understand heterogeneity among different individuals or
0442		primary tumors.
0412	Inflammation	Covers studies of inflammation as it relates to the
[0413]	[Removed]	pathogenesis of disease and wound healing. [Removed]
0414	Host Pathogen	Covers studies investigating the interactions taking place
·	Interaction	between a pathogen and its host on the molecular level,
		single-cell level, organismal level, or population level that
		may or may not lead to disease. This excludes studies of
		immune system reactions to pathogens.

Scientific Classification System (SCS)

SCS Code	Category Name	Definition
0415	Acute Injury	Covers studies that investigate the pathobiology of physical or psychological injuries and insults resulting from a discrete traumatic event with a short duration relative to the given condition.
0416	Fibrosis/ Remodeling	Covers studies on the formation of excess fibrous connective tissue or the reorganization or renovation of existing tissues.
0417	Chronic Injury	Covers studies on the pathobiology of physical or psychological injuries or diseases that develop slowly, are persistent and long-lasting, or recur over time.
0418	Degeneration	Covers studies on the deterioration and decline or loss of function or structure of tissues or organs.
0419	Secondary Conditions	Covers studies on the pathobiology of processes that arise after and as a consequence of the onset of an initial insult, disease, or trauma which triggers downstream effects, either in the same or a different body system.
0420	Comorbidities	Covers studies on the pathobiology of diseases, disorders, injuries, or other pathological conditions that co-occur.
0499	Not Otherwise Specified	Covers studies in pathobiology not otherwise specified in the other research areas.

г

0500: Imm	0500: Immunology		
SCS Code	Category Name	Definition	
0501	Molecular	Covers studies to identify immune markers and	
	Immunology	characterize antibody structures as well as genetic engineering and progressive cloning studies.	
0502	Tumor Immunology	Covers studies of interactions between the immune system and tumor(s).	
0503	Regulation of the Immune Response	Covers studies of mechanisms that up- or down-regulate the immune system, including psychoneuroimmunology.	
0504	Immunodeficiency	Covers studies of inadequacies in the cell mediated or humoral aspects of immune response or its regulation.	
0505	Autoimmunity and Autoimmune Disease	Covers studies of specific immunity to constituents of self.	
0599	Not Otherwise Specified	Covers studies in immunology not otherwise specified in the other research areas.	

0600: Prin	0600: Primary Prevention		
SCS Code	Category Name	Definition	
0601	Lifestyle	Covers studies of the contributions and consequences of lifestyle and behavioral factors on disease/injury risk, as well as studies to test educational and lifestyle	
0602	Chemoprevention	interventions to reduce disease/injury risk. Covers studies on the effect(s) of drugs to prevent occurrence of disease/injury.	
0603	Nutrition	Covers studies on the contributions and consequences of diet and/or nutrition on disease/injury risk, as well as to test educational and diet and/or nutritional interventions intended to prevent the occurrence of disease/injury.	
0604	Genetic Risk	Covers studies among individuals with defined gene composition and genetic mutations to test interventions intended to prevent the occurrence of disease/injury.	
0605	Surgical Prevention	Covers studies on the effects of prophylactic surgical interventions to prevent occurrence of disease/injury.	
0606	Complementary and Alternative Methods	Covers studies in non-traditional/alternative methods of prevention. These include a) alternative medical methods such as homeopathy, naturopathy, chiropracty, osteopathy, or acupuncture; b) mind-body techniques such as support groups, writing, and art; c) bio-energy techniques such as gi gong, Reiki, therapeutic touch and other non-traditional uses of electromagnetic fields.	
0607	Physical Prevention	Covers studies on or development of physical barriers to disease transmission or injury such as condoms, body armor, new formulations of surgical/medical instruments and wall/floor/surface coverings.	
0608	Biological Prevention / Prophylactic Vaccines	Covers studies on the prevention of disease by (1) stimulating antibody production, (2) conferring passive immunity, and/or (3) controlling/eliminating the host vector through biological means such as natural toxins, predation, and/or genetic manipulation/modification.	
0699	Not Otherwise Specified	Covers primary prevention studies not otherwise specified in the other research areas.	

SCS Code	Category Name	Definition
0701	Clinical Biomarkers	Covers the study of the use of indicators, detectable in
		blood, body fluids, tissues, or via imaging or physical or
		neuropsychological assessment, or other information that
		can be used for screening, diagnosis, treatment decisions
		or prognosis in a clinical setting.
0702	Cell/Tissue/Body	Covers the study of methods for collecting biological
	Fluid Sampling	samples and studies on the most effective testing of thes
		specimens for the detection, diagnosis, or prognosis of disease/injury.
0703	Computer-aided	Covers the use of computer algorithms and/or artificial
	Diagnosis	intelligence to aid in making diagnostic decisions.
0704	Digital Imaging	Covers the study of capturing, storing, viewing, and
		analyzing radiographic or other images in a digital format
0705	Magnetic	Covers the study of visualization of structures in the
	Resonance	body by use of oscillating magnetic fields and analysis of the resulting radio frequencies produced.
0706	Imaging Nuclear	Covers the study of image production or count acquisition
0700	Medicine	after the administration of a radionuclide.
	Imaging	
0707	Ultrasonography	Covers the study of visualization of structures in the body
	0 1 7	by recording the reflections of high frequency sound way
		directed into the tissues.
0708	X-ray Imaging	Covers the study of visualization of structures in the
[body by externally applied ionizing radiation.
[0709]	[Removed]	[Removed]
0710	Agent Development	Covers the discovery, screening, synthesis, development,
		formulation, and pharmacology of detection and diagnos
		agents or modification of existing agents to include
0744		accessory or auxiliary agents.
0711	Spectrometry	Covers the direct measurement of electromagnetic wave
		changes in mass, or changes in charge whose detection
		and quantification can be used for screening, diagnosis, o
		prognosis. This excludes visualization of structures in the
		body through imaging techniques.
0712	Nanotechnology	Covers the use of nanotechnology methods, techniques,
		agents for the detection, diagnosis or prognosis of diseas
		Nanotechnology includes creation of structures, devices
		and systems whose size is approximately ≤ 100 nm or less
0713	Fluorescence	Covers studies investigating the use of fluorescence
	Imaging	technology to detect the presence of biological molecules
		and structures in the body for the detection, diagnosis or
074	<u> </u>	prognosis of disease.
0714	Laser Technology	Covers the development and study of laser methodologie
		(including infrared) for the diagnosis and detection of
0799	Net Otherssie	diseased tissues. It does not include treatment.
0799	Not Otherwise Specified	Covers studies in detection, diagnostic or prognostic modalities not otherwise specified in the other research

SCS Code	Category Name	Definition
0801	Drug Development	Covers the discovery, screening, synthesis, development
		and formulation of drugs and the modification of existing
		agents.
0802	Pharmacology	Covers studies of the pharmacokinetics, toxicity, routes o
		administration and mechanisms of action of treatment
		agents. This may include drugs that modify the
		effectiveness of other drugs.
0803	Chemotherapy/	Covers the study of using drugs or a combination of drugs
	Pharmacotherapy	to treat a disease, injury, or disorder. This may include
		drugs that modify the effectiveness of other drugs.
0804	Drug	Covers studies on the mechanism, treatment, and
	Resistance/Multi-	prevention of all forms of drug resistance.
0805	Drug Resistance Targeted Therapies	Covers the development, testing, and study of individual
0005		agents that target cells or combined agents that contain a
		targeting component with a toxic or therapeutic
		component.
0806	Therapeutic	Covers the study of treatment of disease with agents
	Vaccines	designed to elicit immune responses to specific antigens.
		Note: prophylactic vaccines NOT included.
0807	Immunotherapies	Covers the study of treatment of disease, injury, or disord
		by the use of agents designed to modulate the immune
		system. This includes passive immunization, use of agent
		designed to induce, enhance, or suppress immune effector
		cells, and induction of immune tolerance. Excludes
0000	De die the sus as	vaccines.
0808	Radiotherapy	Covers the study of using ionizing radiation to treat diseas or kill cells.
0809	Hormonal Therapy	Covers the study of the treatment of disease by potentiat
0005	inerner apy	or blocking the effects of hormones.
0810	Gene Therapy	Covers the study of treatment that modifies or inserts
	(Includes Vector	genes into cells to improve the body's natural ability to
	Development)	fight disease or to make the tumor more sensitive to othe
		therapies. Includes gene vector development and
		antisense technologies.
0811	Photodynamic	Covers the study of light activated substances in treating
0010	Therapy	disease.
0812	Anti-angiogenics	Covers the study of using substances that inhibit blood
0813	Surgery	vessel formation Covers studies on manual or instrumental procedures for
0013	Juigery	the removal, replacement, or repair of diseased or injured
		organs or tissue.
0814	Нуро/	Covers the study of localized or systemic temperature
	Hyperthermia	changes for either direct therapeutic effect or enhancing
		effectiveness of other therapies.
0815	Rehabilitation	Covers the study of interventions to improve functional
		status and/or appearance related to disease, injury or treatment.

Scientific Classification System (SCS)

SCS Code	Category Name	Definition
0816	Symptom	Covers studies of the factors or interventions that
	Management	influence disease or injury specific symptoms and/or
		reduce treatment side-effects. Symptom management
		may be medically or psychosocially based.
0817	Nanotechnology	Covers the use of nanotechnology methods, techniques, or
		agents for the treatment of disease or injury.
		Nanotechnology includes creation of structures, devices and systems whose size is approximately ≤ 100 nm or less.
0818	Laser Technology	Covers the development and study of laser methodologies
0010		(including infrared) for the treatment of tumors or other
		diseased/injured tissues. It does not include the diagnosis
		of tumors, tumor margins, or other diseased tissues with
		laser technologies.
0819	Personalized	Covers studies that develop clinical guidance for a course
	Therapy	of therapy tailored to the specific needs of a patient.
0820	Behavioral /	Covers studies of treatments that help patients
	Cognitive /	understand the thoughts and feelings that influence
	Psychological	behaviors, treatments that help change potentially self-
	Therapies	destructing behaviors, treatments that help patients
		recognize and overcome real-world challenges, and/or
		treatments that involve talking with a mental health
		provider.
0821	Stem Cell Therapy	Covers the study of using stem cells to treat disease or injury.
0822	Biologics	Covers the development or modification of biological
		medical projects such as blood components, allergenics,
		somatic cells, tissues, and recombinant therapeutic
		proteins, including biomaterials (e.g., scaffolds, grafts,
[00000]		hydrogels).
[0823]	[Removed]	[Removed]
0824	Tissue	Covers studies that develop improved ex vivo tissue
	Preservation	preservation methods, products, technologies, or
		platforms that extend the time between procurement and
		viable medical use. This includes thermal technologies,
		preservation media/perfusates, freezing/thawing
		methods, transportation platforms, etc., that better
		preserve tissues for use in medical procedures (e.g.,
0825	Tissue Stimulation	transplantation, replantation).
0625		Covers studies of functional stimulation of tissue for the
		purpose of treating a disease, injury, or disorder. Examples
		include, but are not limited to, transcranial electrical or
		magnetic stimulation, electrical stimulation of muscle
		(including cardiac tissue), and electrical stimulation of the spinal cord or other nervous tissues.
0899	Not Otherwise	Covers studies in clinical and experimental therapeutics not
	Specified	otherwise specified in the other research areas.

0900: Complementary and Alternative Medicine		
SCS Code	Category Name	Definition
0901	Nutraceuticals	Covers the study of nutritional, vitamin and/or dietary
		supplements and herbal remedies as forms of non-
		traditional interventions and/or complementary treatment
		to traditional interventions.
[0902]	[Removed]	[Removed]
0903	Alternative	Covers studies using non-conventional methods for
	Medical Methods	treatment. These would include homeopathic medicine,
		naturopathic medicine, chiropractic medicine, osteopathic
		methods, acupuncture, or therapeutic massage.
0904	Mind-Body	Covers the study of techniques to manage mind and body
	Interventions	interactions and functions. These would include patient
		support groups, meditation, prayer, mental healing, writing,
0005		art, and performance art.
0905	Bio-energy	Covers the study of energy therapies and the
	Therapies	manipulation of bio-energy fields such as gi gong, Reiki,
		and therapeutic touch. Also includes the study of non-
		traditional uses of electromagnetic fields such as pulsed
		fields, magnetic fields, and AC/DC fields.
0906	Service/Therapy	Covers studies of animals that are trained to do work or
	Animals	perform tasks for a person with a disability, or studies that
		involve animals as a form of treatment or medical alert.
0999	Not Otherwise	Covers studies in complementary and alternative medicine
	Specified	not otherwise specified in the other research areas.

1000: Heal	th Care Delivery	
SCS Code	Category Name	Definition
1001	Health Care	Covers studies describing and/or assessing interventions or
	Settings	policies to enhance the delivery of disease/injury
		prevention, detection, treatment and rehabilitation
		services in medical systems and medical care settings,
		including, for example, patterns of care assessments and
		cost effectiveness studies in a medical care setting.
1002	Communities	Covers studies describing and/or assessing interventions
		and/or policies for reaching and/or influencing
		populations in community and other non-medical settings
		in order to improve the delivery of disease/injury
		prevention, detection, treatment and rehabilitation
		services. Studies include, for example, community
		outreach interventions.
1003	Telemedicine	Covers studies involving the transmission of medical
		information via telephone, the Internet, videoconferencing,
		or other networks/modalities for the purpose of
		consulting, or to conduct remote medical services.
1004	Clinical Practice	Covers studies involving the development, assessment,
	Guidelines	validation, or implementation of clinical practice guidelines.
1099	Not Otherwise Specified	Covers health care delivery studies not otherwise specified in the other research areas.

1100: Biob	1100: Biobehavioral Sciences		
SCS Code	Category Name	Definition	
1101	Basic Behavioral	Covers descriptive studies of knowledge, attitudes and behavior in defined populations or studies of the basic relationships between biology and behavioral factors and disease/injury.	
1102	Quality of Life	Covers studies with specific aims or objectives to understand the factors that contribute to quality of life (QOL), interventions designed to enhance QOL, and/or the QOL consequences that result from actions by patients, caregivers, and/or providers among individuals with or at risk for disease/injury.	
1103	Decision Making	Covers studies of factors that contribute to patient, caregiver, or provider decision-making regarding diagnosis, treatment and/or rehabilitation, such as participation in clinical trials, risk assessment, genetic counseling and adherence to treatment.	
1104	Communication and Education	Exploration of health communications theories and their application to disease/injury and disease/injury control issues, studies to fill gaps in understanding how patients, care givers, health care providers and the general population use health information, and development and testing of educational interventions.	
1105	Lifestyle	Covers studies of interventions that reduce disease/injury risk, enhance treatment efficacy, improve prognosis and/or overall health, such as physical activity, stress reduction, supportive care, etc.	
1199	Not Otherwise Specified	Covers biobehavioral sciences studies not otherwise specified in the other research areas.	

Г

1200: Epid	1200: Epidemiology		
SCS Code	Category Name	Definition	
1201	Descriptive Epidemiology/ Surveillance	Covers population-based observational research studies of the distribution (incidence, prevalence) and characteristics of disease/injury.	
1202	Behavioral Epidemiology	Covers population-based observational studies assessing the nature of associations between lifestyle and host factors and disease/injury risk, initiation, progression, detection, prognosis and/or treatment.	
1203	Gene and/or Environmental Epidemiology	Covers population-based observational studies assessing the nature of associations and effect modification between genetic susceptibility, polymorphic genes and environmental or host factors and disease/injury risk, initiation, progression, and/or intermediate disease/injury endpoints.	
1204	Nutritional Epidemiology	Covers population-based observational studies assessing the nature of associations and effect modification between nutritional factors and disease/injury risk, initiation/occurrence, progression, detection, and prognosis.	
1205	Biological Epidemiology	Covers population-based observational studies assessing the nature of interactions between basic biology and biological mechanisms with disease/injury risk, initiation/occurrence, progression, and/or intermediate disease endpoints.	
1299	Not Otherwise Specified	Covers epidemiological studies not otherwise specified in the other research areas.	

7

1300: Rese	1300: Research Resources		
SCS Code	Category Name	Definition	
1301	Training Programs	Covers projects that provide support for extramural	
		programs to train multiple investigators, such as	
		institutional training programs.	
1302	Research	Covers support for development, maintenance, and/or	
	Resources and	utilization of registries or repositories (e.g., central agencies	
	Registries	for the collection of pathologic material and related clinical,	
		laboratory, x-ray, and other data in a specified field,	
		organized so that the data can be properly processed and made available for study).	
1303	Animal Models	Covers support for development of vertebrate and	
		invertebrate animal models of human diseases/injury.	
1304	Computer Models	Covers support for the development and maintenance of	
		computer modeling and information management systems and novel uses of information technology.	
1305	Centers, Clinical	Covers support for the development of core-supported,	
	Centers, or	multi-project research programs integrated around a	
1306	Consortia Statistical Models	common theme.	
		Covers support for the development of models for data analysis.	
1307	Cell Lines	Covers the development or modification of cell lines.	
1308	Survey/Instrument	Covers support for the design and/or validation of survey	
	Development	instruments that have the potential for use across research	
1309	and Validation Vector	studies. Covers the development or modification of cloning vectors,	
1203	Development	gene expression vectors or expression constructs.	
1399	Not Otherwise	Covers studies in research resources not otherwise	
	Specified	specified in the other research areas.	

1400: Neu	1400: Neuroscience		
SCS Code	Category Name	Definition	
1401	Neural Circuits	Covers investigations and/or modulation of neural circuits/pathways, including those that regulate physiological functions (e.g., autonomic function) as well as those that contribute to mental or neurological disorders or subtypes of disorders.	
1402	Neural Plasticity / Repair	Covers studies of the behavioral aspects of neural plasticity to cellular aspects, such as neuronal and glial production, axonal sprouting, synapse formation, and cell transplantation.	
1403	Cognitive Performance	Covers studies of cognitive performance, including the use of neuropsychological batteries of attention, memory, and executive functioning.	
1404	Resiliency	Covers studies on the ability to recover from stress or adjust to change.	
1405	Neurodegeneration	Covers studies that investigate the progressive loss of structure and function of neurons. May also include studies examining the role of non-neuronal cells in neurodegeneration.	
1406	Pain	Covers the investigations of acute or chronic pain relating to the sensory nerves or central nervous system.	
1407	Neuroprotection	Covers studies of the mechanisms and strategies used to preserve neuronal structure and/or function, or to prevent or reduce the rate of neuronal loss over time.	
1408	Alcohol and Substance Use Disorders	Covers studies that examine characteristics and/or treatment of alcohol and/or substance use disorders.	
1499	Not Otherwise Specified	Covers studies in neuroscience not otherwise specified in the other research areas.	

1500: Computational Biology		
SCS Code	Category Name	Definition
1501	Bioinformatics	Covers studies that apply algorithms and statistical techniques to data mine, interpret, and analyze biological and/or clinical data.
1502	Biomodeling/ Mathematical	Covers the mathematical representation, treatment and modeling of biological processes.
	Biology	
1503	Molecular	Covers studies that use computational methods to model or
	and Structural	mimic the behavior of molecules as well as studies on the
	Modeling	interactions of multiple molecules. Includes studies on 3D structure prediction.
1504	Systems Biology	Covers the systematic study of complex interactions in
		biological systems by modeling large-scale biological networks.
1505	Therapeutic	Covers studies using computer modeling to examine
	Modeling	therapeutic interventions and how they relate to initiation, progression, detection, and prognosis.
1506	Environmental	Covers studies that apply mathematical or statistical
	Modeling	techniques to simulate environmental exposures and their effect on physiology and/or disease.
1599	Not Otherwise Specified	Covers studies in computational biology not otherwise specified in the other research areas

г

1600: Devices		
SCS Code	Category Name	Definition
1601	Device Development	Covers the development or repurposing of medical
		devices including implantable devices, mobility aides, medical equipment, and prostheses.
1602	Device Validation	Covers the validation and/or optimization of medical devices.
1603	Device Surveillance	Covers the studies involving the post-market monitoring for the safety and performance of a medical device.
1604	Software	Development of computer software used to support a
	Development	medical device for diagnosis, disease monitoring, or
		treatment. Does not include mobile device applications or self-contained programs.
1605	Medical App	Development, validation, or use of a self-contained
		program or piece of software designed to fulfill a
		particular purpose. Examples include mobile apps for
		diagnosis, disease monitoring, self-management of
		health and wellness, etc.
1699	Not Otherwise	Covers studies in devices not otherwise specified in the
	Specified	other research areas