Resource Summary Report

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Duke University Medical Center: Duke Image Analysis Laboratory

RRID:SCR_001716
Type: Tool

Proper Citation

Duke University Medical Center: Duke Image Analysis Laboratory (RRID:SCR_001716)

Resource Information

URL: http://dial.mc.duke.edu/

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Description: THIS RESOURCE IS NO LONGER IN SERVICE. Documented on September 23,2022. The Duke Image Analysis Laboratory (DIAL) is committed to providing comprehensive imaging support in research studies and clinical trials to various agencies. The capabilities of the lab include protocol development, site training and certification, and image archival and analysis for a variety of modalities including magnetic resonance imaging, magnetic resonance spectroscopy, computed tomography and nuclear medicine. DIAL uses the latest technologies to analyze Magnetic Resonance Imaging (MRI) data sets of the brain. Currently the lab is engaged in measurement of the hippocampus, amygdala, caudate, ventricular system, and other brain regional volumes. Each of these techniques have undergone a rigorous validation process. The measurements of brain structures provide a useful means of non-invasively testing for changes in the brain of the patient. Changes over time in the brain can be detected, and evaluated with respect to the treatment that the patient is receiving. Magnetic Resonance Spectroscopy (MRS) allows DIAL to obtain an accurate profile of the chemical content of the brain. This sensitive technique can detect small changes in the metabolic state of the brain; changes that vary in response to administration of therapeutic agents. The ability to detect these subtle shifts in brain chemistry allows DIAL to identify changes in the brain with more sensitivity than allowed by image analysis. In this respect, NMR spectroscopy can provide early detection of changes in the brain, and serves to compliment the data obtained from image analysis. Additionally, DIAL also contains SQUID (Scalable Query Utility and Image Database). It is an image management system developed to facilitate image management in research and clinical trials: SQUID offers secure, redundant image storage and organizational functions for sorting

and searching digital images for a variety of modalities including MRI, MRS, CAT Scan, X-Ray and Nuclear Medicine. SQUID can access images directly from DUMC scanners. Data can also be loaded via DICOM CDs

Synonyms: DMC DIAL

Resource Type: topical portal, data or information resource, portal, database

Keywords: academic, amygdala, analysis, biotechnology, brain, cat scan, caudate, chemical, clinical, computed, development, digital, hippocampus, imaging, lab, laboratory, magnetic resonance imaging, magnetic resonance spectroscopy, medical, medicine, metabolic, mri, mrs, nmr, nuclear, nuclear medicine, pharmaceutical, research, spectroscopy, structure, technology, therapeutic, tomography, treatment, trial, ventricular, ventricular system, volume, x-ray, FASEB list

Funding:

Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: Duke University Medical Center: Duke Image Analysis Laboratory

Resource ID: SCR_001716

Alternate IDs: nif-0000-10213

Record Creation Time: 20220129T080209+0000

Record Last Update: 20250407T215231+0000

Ratings and Alerts

No rating or validation information has been found for Duke University Medical Center: Duke Image Analysis Laboratory.

No alerts have been found for Duke University Medical Center: Duke Image Analysis Laboratory.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 33 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Sivakumar KK, et al. (2022) Inhibition of Sirtuin-1 hyperacetylates p53 and abrogates Sirtuin-1-p53 interaction in Cr(VI)-induced apoptosis in the ovary. Reproductive toxicology (Elmsford, N.Y.), 109, 121.

Ikami K, et al. (2021) Altered germline cyst formation and oogenesis in Tex14 mutant mice. Biology open, 10(6).

Adams EJ, et al. (2021) Murine SEC24D can substitute functionally for SEC24C during embryonic development. Scientific reports, 11(1), 21100.

Liu T, et al. (2020) BAF60a deficiency uncouples chromatin accessibility and cold sensitivity from white fat browning. Nature communications, 11(1), 2379.

Thoene JG, et al. (2020) Microvesicle delivery of a lysosomal transport protein to ex vivo rabbit cornea. Molecular genetics and metabolism reports, 23, 100587.

Steen K, et al. (2020) A role for keratins in supporting mitochondrial organization and function in skin keratinocytes. Molecular biology of the cell, 31(11), 1103.

Gregory JV, et al. (2020) Systemic brain tumor delivery of synthetic protein nanoparticles for glioblastoma therapy. Nature communications, 11(1), 5687.

Anderson MT, et al. (2019) Sulfur Assimilation Alters Flagellar Function and Modulates the Gene Expression Landscape of Serratia marcescens. mSystems, 4(4).

Yap J, et al. (2019) Harnessing technology and molecular analysis to understand the development of cardiovascular diseases in Asia: a prospective cohort study (SingHEART). BMC cardiovascular disorders, 19(1), 259.

Boniecki P, et al. (2019) Neural Classification of Compost Maturity by Means of the Self-Organising Feature Map Artificial Neural Network and Learning Vector Quantization Algorithm. International journal of environmental research and public health, 16(18).

Lee YI, et al. (2019) Differences in the constituent fiber types contribute to the intermuscular variation in the timing of the developmental synapse elimination. Scientific reports, 9(1), 8694.

Nikouee A, et al. (2018) Cholesterol Protects Against Acute Stress-Induced T-Tubule Remodeling in Mouse Ventricular Myocytes. Frontiers in physiology, 9, 1516.

Uchida K, et al. (2018) Diffusional and Electrical Properties of T-Tubules Are Governed by Their Constrictions and Dilations. Biophysical journal, 114(2), 437.

Moncion A, et al. (2017) Controlled release of basic fibroblast growth factor for angiogenesis using acoustically-responsive scaffolds. Biomaterials, 140, 26.

Waller TJ, et al. (2017) The human tRNA-modifying protein, TRIT1, forms amyloid fibers in vitro. Gene, 612, 19.

Blandino-Rosano M, et al. (2017) Loss of mTORC1 signalling impairs ?-cell homeostasis and insulin processing. Nature communications, 8, 16014.

Hu Y, et al. (2016) Enamel ribbons, surface nodules, and octacalcium phosphate in C57BL/6 Amelx-/- mice and Amelx+/- lyonization. Molecular genetics & genomic medicine, 4(6), 641.

Ku CJ, et al. (2015) A monoallelic-to-biallelic T-cell transcriptional switch regulates GATA3 abundance. Genes & development, 29(18), 1930.

Korshavn KJ, et al. (2015) Reactivity of Metal-Free and Metal-Associated Amyloid-? with Glycosylated Polyphenols and Their Esterified Derivatives. Scientific reports, 5, 17842.

Geister KA, et al. (2015) LINE-1 Mediated Insertion into Poc1a (Protein of Centriole 1 A) Causes Growth Insufficiency and Male Infertility in Mice. PLoS genetics, 11(10), e1005569.