บทความที่น่าสนใจประจำเดือน พฤษภาคม 2556

Title :	Vitamin D-binding Protein in Cerebrospinal Fluid is Associated with Multiple Sclerosis Progression
Author :	Mingchong Yang, Zhaoyu Qin, YanYan Zhu, Yun Li, Yanjiang Qin, Yongsheng Jing, Shilian Liu
Journal :	Molecular Neurobiology, June 2013, Volume 47, Issue 3, pp 946-956
Abstract :	Multiple sclerosis is a neurological disorder that presents with symptoms including inflammation, neurodegeneration, and demyelination of the central nervous system (CNS). Secondary progressive multiple sclerosis (SPMS) manifests with serious physical disability. To quantitatively analyze differential protein expression in patients with SPMS, we performed two-dimensional fluorescence difference in-gel electrophoresis, followed by mass spectrometry on the cerebrospinal fluid of these patients and patients with other neurological diseases. Vitamin D-binding protein (DBP), gelsolin, albumin, etc. showed more than a 1.5-fold difference between the two groups. Based on these results, an experimental allergic encephalomyelitis (EAE) model of multiple sclerosis in Lewis rats was used to investigate DBP's role in the disease. Protein levels, mRNA transcripts, and ligands of DBP in different regions of the CNS were evaluated under various vitamin D intake levels. Here, DBP levels increased in the experimental rat groups compared to the control groups regardless of vitamin D intake. Moreover, DBP mRNA levels varied in different parts of the CNS including spinal cords in the experimental groups. The observed differences between DBP protein and mRNA levels in the experimental groups' spinal cords could be derived from the disruption of the blood–brain barrier. Furthermore, an interaction between DBP and actin was confirmed using coimmunoprecipitation and western blot. These results indicate a role for DBP in the actin scavenge system. Moreover, in the experimental group that received oral vitamin D3 supplement, we observed both delayed onset and diminished severity of the disease. When DBP was upregulated, however, the benefits from the vitamin D3 supplements were lost. Thus, we inferred that high levels of DBP were adverse to recovery. In conclusion, here we observed upregulated DBP in the cerebrospinal fluid could serve as a specific diagnostic biomarker for the progression of multiple sclerosis. Next, we demonstrate the vital function of increased levels of free vitamin D metabolites for multiple sclerosis treatment. Finally, vitamin D supplements may be particularly beneficial for SPMS patients.
Database :	SpringerLink

Title :	MicroRNAs in the Brain: It's Regulatory Role in Neuroinflammation
Author :	Menaka C. Thounaojam, Deepak K. Kaushik, Anirban Basu
Journal :	Molecular Neurobiology, June 2013, Volume 47, Issue 3, pp 1034-1044
Abstract :	MicroRNAs (miRNAs) are single-stranded noncoding regions of approximately 21 nucleotides that regulate protein synthesis by targeting mRNAs for translational repression or degradation at the post-transcriptional level. These classes of RNAs are highly conserved across species and are known to regulate several protein-coding genes in humans. Therefore, their dysregulation is synonymous with inflammation, autoimmunity, neurodegeneration, viral infections, heart diseases, and cancer, among other conditions. Recent years have witnessed considerable amount of research interest in studies on miRNA-mediated modulation of gene

	function during neuroinflammation. This review is a meticulous compilation of information on biogenesis of miRNAs and their role in neuroinflammatory diseases. Further, their potential as markers of inflammatory diseases or novel therapeutic agents against neuroinflammation has also been discussed in detail.
Database :	SpringerLink

Title :	Treatment of Patients with Stage IV Gastric Cancer
Author :	Masahide Ikeguchi, Abdul Kader, Seigo Takaya, Youji Fukumoto, Tomohiro Osaki, Hiroaki Saito, Shigeru Tatebe, Toshiro Wakatsuki
Journal :	Journal of Gastrointestinal Cancer, June 2013, Volume 44, Issue 2, pp 199-202
Abstract :	Treatment of patients with stage IV gastric cancer is controversial. This study was retrospectively designed to elucidate the best treatment for these patients.
Database :	SpringerLink

Title :	Synthesis of some new glutamine linked 2,3-disubstituted quinazolinone derivatives as potent antimicrobial and antioxidant agents
Author :	M. K. Prashanth, H. D. Revanasiddappa
Journal :	Medicinal Chemistry Research, June 2013, Volume 22, Issue 6, pp 2665-2676
Abstract :	A series of novel glutamine linked 2,3-disubstituted quinazolinone conjugates was synthesized from methyl anthranilate and different substituted acids and acid chlorides. The compounds 5a–l were prepared in good yields. All compounds were screened for their antibacterial activity against Gram-positive and Gram-negative bacteria and for antifungal activity against Candida albicans and Aspergillus flavus using paper disk diffusion technique. The minimum inhibitory concentrations of the compounds were also determined by agar streak dilution method. The compound 5b was found to exhibit the most potent in vitro anti-microbial activity. When tested for their antioxidant activity, compounds 5i and 5l showed potent radical scavenging activity, while compound 5g had moderate effect against 2,2-diphenyl-1-picrylhydrazyl, hydroxyl, nitric oxide, and superoxide radical scavenging assays. These results suggest that, the three quinazolinone analogs (5g, 5i, and 5l) could be considered as useful templates for future development to obtain more potent antioxidant agents.
Database :	SpringerLink

Title :	Tips and Tricks for the Lab: Air-Sensitive Techniques (1)
Author :	Sarah Millar
Journal :	DOI: 10.1002/chemv.201300002
Abstract :	Many of the compounds encountered in organometallic chemistry are sensitive toward moisture and/or oxygen. Likewise, some organic syntheses or preparations require volatile or pyrophoric reactants. A compound is classed as air-sensitive if it reacts with O2, water, N2, or CO2. Air-sensitive compounds must be isolated from the atmosphere and handled in a controlled environment. Typically, an atmosphere of nitrogen or argon is used. This comes in a suitably pure form from a cylinder fitted with an appropriately sized regulator. As argon i

	more expensive than nitrogen, nitrogen is usually the preferred gas unless the compound(s) under study react with nitrogen. ..... Air-sensitive techniques and equipment can look daunting, but the usefulness of the Schlenk line cannot be denied. The two interconnected lines of the manifold provide a simple way to evacuate a flask and refill it with an inert atmosphere if the safety considerations are taken into account by performing the steps in the correct order.
Database :	ChemistryViews.org

Title :	Implementing routine outcome measures in child and adolescent mental health services: from present to future practice
Author :	Martin J Batty, Maria Moldavsky, Pooria Sarrami Foroushani, Sarah Pass, Michael Marriott, Kapil Sayal, Chris Hollis
Journal :	Child and Adolescent Mental Health, May 2013, Volume 18, Issue 2, pages 82–87
Abstract :	The importance of monitoring outcomes to measure clinical effectiveness of interventions and services is central to the U.K. Government's NHS Outcomes Framework policy (Department of Health, 2010). Within child and adolescent mental health services (CAMHS), the National Service Framework (NSF) for Children and Young People, 'Every Child Matters' recommends that the work of CAMHS should be appropriately monitored and evaluated and the information used to enhance clinical work, further service development and to inform users and other stakeholders (Department of Health, 2007). The Children's NSF also recommends that all services should evaluate outcomes from the perspective of users (including where possible the referred child or young person) as well as the clinicians, and that resources, including administrative and clinical time and IT should be available within CAMHS for the routine evaluation of outcomes.
Database :	Wiley Online Library

Title :	RNA regulation of the immune system
Author :	K. Mark Ansel
Journal :	Immunological Reviews-Special Issue: RNA Regulation of the Immune System, May 2013, Volume 253, Issue 1, pages 5–11
Abstract :	RNA is involved in the expression of all genes. Messenger RNAs (mRNAs) are transcribed from the DNA genome and translated into protein by the ribosome. Not surprisingly, every step in this process is regulated to tune gene expression to meet the demands of complex organism development and appropriate responses to cell stress and environmental stimuli. Noncoding RNAs are major participants in gene regulation. The ribosome itself an RNA enzyme, and mRNA splicing is also mediated by small nuclear RNAs and their associated proteins. MicroRNAs (miRNAs) have recently emerged as essential and nearly ubiquitous regulators of gene expression in multicellular eukaryotes. Advanced sequencing technologies and the excitement surrounding the discovery of miRNAs and their myriad roles in a wide variety of biological systems (not least the immune system) has also reinvigorated research on other aspects of RNA biology. It is now clear that even transcription is subject to regulation by long noncoding RNAs. With the realization that over half of the genome is transcribed, we can

	expect additional revelations about RNA regulation in years to come.
Database :	Wiley Online Library

Title :	The Yin and Yang of microRNAs: leukemia and immunity
Author :	Alex Yick-Lun So, Jimmy L. Zhao, David Baltimore
Journal :	Immunological Reviews - Special Issue: RNA Regulation of the Immune System, May 2013, Volume 253, Issue 1, pages 129–145
Abstract :	Yin and Yang are two complementary forces that together describe the nature of real-world elements. Yin is the dark side; Yang is the light side. We describe microRNAs having both Yin and Yang characteristics because they can contribute to normal function (Yang) but also to autoimmunity, myeloproliferation, and cancer (Yin). We have been working on a number of microRNAs that have these dual characteristics and here we focus on two, miR-125b and miR-146a. We have concentrated on these two RNAs because we have very extensive knowledge of them, much of it from our laboratory, and also because they provide a strong contrast: the effects of overexpression of miR-125b are rapid, suggesting that it acts directly, whereas the effects of miR-146a are slow to develop, suggesting that they arise from chronic alterations in cellular behavior.
Database :	Wiley Online Library

Title :	CSF biomarker variability in the Alzheimer's Association quality control program
Author :	Niklas Mattssona, Ulf Andreassona, Staffan Perssona, Maria C. Carrilloc, Steven Collins, et al.
Journal :	Alzheimer's & Dementia, May 2013, Volume 9, Issue 3, Pages 251–261
Abstract :	The cerebrospinal fluid (CSF) biomarkers amyloid beta 1–42, total tau, and phosphorylated tau are used increasingly for Alzheimer's disease (AD) research and patient management. However, there are large variations in biomarker measurements among and within laboratories.
Database :	ScienceDirect

Title :	Plasma B-type natriuretic peptide in predicting outcomes of elective coronary artery bypass surgery
Author :	Thay-Hsiung Chena, Ching-Ling Linb, Joseph Jaey-Ming Shiha, James Yao-Ming Shiha, Chung-Huo Chenc, Mei-Ling Changc, Chih-Hui Chinc, et al.
Journal :	The Kaohsiung Journal of Medical Sciences, May 2013, Volume 29, Issue 5, Pages 254–258
Abstract :	The risks of surgery and its clinical outcome are of great importance for both patients and physicians when choosing coronary artery bypass (CABG) surgery for coronary artery disease. The purpose of the current study was to clarify the relationship between serum B-type natriuretic peptide (BNP) and patient clinical outcome. Seventy-six eligible patients who underwent CABG were enrolled into the prospective study. Venous blood samples were drawn for serum BNP and N-terminal (NT)-proBNP levels measurement on preoperative Day 1, postoperative Day 1, and postoperative Day 7. Clinical end points were: (1) intensive care unit (ICU) stay longer than 4 days postoperatively and/or

	hospital stay longer than 13 days postoperatively; (2) major complications and poor outcomes. Patients who had prolonged ICU stay and hospitalization had significantly higher postoperative Day 1 BNP and postoperative Day 1 NT-proBNP level ($p = 0.02$ and 0.005, respectively). Age was significantly older in patients with prolonged ICU stay and hospitalization than those without prolonged ICU stay and hospitalization ($p = 0.03$). Serum creatinine level was also significantly increased in patients with prolonged ICU stay and hospitalization ($p = 0.009$). However, age was the only remaining factor that correlated with prolonged ICU stay and hospitalization in the multivariate logistic regression model. These results suggest that research using BNP and NT-proBNP for predicting ICU stay and hospitalization in patients who have undergone CABG must adjust risk factors to present a more appropriate estimation of its clinical outcome.
Database :	ScienceDirect