A Survey Investigation of Hurricane Preparedness in New Orleans Post Hurricane Katrina

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Introduction

In the summer of 2005, Hurricane Katrina made landfall in the Gulf Coast of the United States. The hurricane hit New Orleans on August 29. New Orleans, with the Mississippi River on one side and Lake Pontchartrain on the other, and with parts of the city below sea level, is a place at risk. When the hurricane hit, some of the levees that protected the city breached, which led to flooding that left an estimated 80% of the city underwater. The catastrophic aftermath of Hurricane Katrina included property damage of almost $100 billion and loss of life for nearly 3000 people. A significant portion of people living in the City did not evacuate despite warnings. Many failed to do so because of lack of information or proper planning. Almost 10 years have passed since Hurricane Katrina, but its memory is still very much alive. Many consider that as long as the memory remains in the minds of the residents of New Orleans, the aftermath and catastrophic consequences cannot be repeated; however, many others do believe the city is not yet completely prepared. We hypothesized that those who survived Katrina would be more likely to be prepared in subsequent hurricane seasons; that those with higher health literacy are more likely to be prepared; and that prior evacuation status would have an impact on current preparedness.

Objectives

1. To assess the level of hurricane preparedness post Hurricane Katrina among various levels of emergency department health care workers and their patients currently living in New Orleans.
2. To assess which factors affect people’s level of preparation for a hurricane and mandatory evacuation.
3. To assess awareness of the plans put in place by the city for the contingency of a mandatory evacuation.

Methods

125 surveys were administered in the Emergency Department (ED) of the Interim LSU and Ochsner Medical Center. A convenience sample of five populations of interest: staff physicians, residents, nurses, attendants, and patients. 25 surveys to each population on weekdays, nights, and weekend shifts to assess their awareness of city preparedness plans, their own level of preparation and evacuation plans, and their evacuation status during Katrina.

Multivariate analysis was conducted by survey team using the square test to correlate responses in population of interest on a survey for health literacy and its evacuation status during Katrina.

Survey Results

Correlation Between Health Literacy and Survey Outcome

Conclusions

Health literacy level does not correlate with preparedness for future hurricane Katrina, but it does or impact in the role of information for future preparedness and disaster response. The correlation between the two factors has a significant impact on how prepared people living in New Orleans feel. People scoring over 5 on a survey of health literacy, which could improve with training and education.

Discussion

Level of education or age was found to correlate with preparedness for hurricane Katrina, but not with the impact on the city. Preparing lower educational levels and younger populations in New Orleans for hurricane Katrina was found to increase preparedness and lower the impact on the city. Preparing lower educational levels and younger populations in New Orleans for hurricane Katrina was found to increase preparedness and lower the impact on the city. Preparing lower educational levels and younger populations in New Orleans for hurricane Katrina was found to increase preparedness and lower the impact on the city.
Chronic Binge Alcohol Administration Decreases miR-206 in SIV-infected Macaques
Garren Mitchell, Liz Simon, Patricia Molina
Department of Physiology, LSU Health Sciences Center, New Orleans, LA

Methods

Results

Summary

This research was supported by grant K02AA021308 from the National Institute of Alcohol Abuse and Alcoholism at the National Institutes of Health.
Candida albicans Activates the VEGFR2 Signaling Pathway to Induce Endothelial Permeability
Grace Myers¹, Doug Johnston²
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Introduction
Candida albicans is an important pathogen of the oral and digestive tracts and plays a role in various diseases, including infections and chronic inflammation. The pathogenicity of C. albicans is multifactorial, involving adherence, biofilm formation, and secretion of toxins. The VEGFR2 (VEGF receptor 2) signaling pathway has been implicated in the regulation of endothelial cell permeability and angiogenesis.

Material and Methods
- Blocking KDR signaling was performed using specific inhibitors.
- Candida-induced upregulation of CXCL8 was assessed using ELISA.
- Confocal microscopy was used to visualize endothelial cell morphology.
- Western blot analysis was performed to detect expression levels of relevant proteins.

Results
- Blocking KDR signaling enhances AJ formation and limits the Candida-induced breakdown.
- Candida-induced upregulation of CXCL8 is KDR-independent.
- Blocking CXCR2 signaling enhances AJ formation but increases HMEC-1 apoptosis.
- Candida-induced breakdown of AJ does not require viable fungal cells.

Conclusions
- Candida activates the VEGF signaling pathway when adhering to and invading endothelial cells.
- Candida activates the VEGFR2-dependent ROCK pathway, leading to AJ breakdown.
- Blocking ROCK inhibits Candida-induced AJ breakdown.
- Blocking CXCR2 signaling reduces Candida-induced AJ breakdown.
- CXCL8 is a key mediator of Candida-induced AJ breakdown.

Acknowledgments
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- The authors thank [Collaborators/Institutions] for their contributions.

References
- [List of relevant literature sources]
Corticotropin Releasing Factor in Central Amygdala Appears to Produce Conditioned Place Avoidance
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INTRODUCTION
Post Traumatic Stress Disorder (PTSD) affects around 8 million Americans every year.
PTSD diagnostic criteria include persistent avoidance of stimuli associated with trauma.
Corticotropin Releasing Factor (CRF) is a hormone that is critical for regulating emotions and is a key component of the stress pathway.
Previous research from our lab suggests that animals who displayed avoidance of a predator odor (tricaprylin) in a novel (stressor for rodents) show increases in extracellular CRF in the lateral nucleus of the amygdala (CeA).

EXPERIMENTAL DESIGN

HYPOTHESIS
We hypothesized that exogenous CRF administration bilaterally and site specifically into the CeA would dose dependently increase avoidance behavior in rats.

RESULTS

CONCLUSIONS
• Preliminary data shows a nonsignificant trend that administering CRF into the CeA increases avoidance behavior in rats in a dose-dependent manner.
• Similar to predator odor, CRF in the CeA produced avoidance.
• These findings are part of our ongoing investigation of the effects of CRF in the CeA on anxiety-like behaviors.

REFERENCES
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The Effects of Psychoactive Drugs on Drosophila melanogaster

Haley Severin¹, Kelly Jean Sherman², Charles Nichols²

1. Xavier University of Louisiana, New Orleans, LA; 2. Department of Pharmacology and Experimental Therapeutics, LSU Health Sciences Center, New Orleans, LA

Introduction

Drosophila melanogaster, commonly known as the fruit fly, is used as a model system to study diseases and identify potential targets for treatment. 75% of disease-related genes in humans have functional orthologs in Drosophila. Many important molecular pathways were first discovered in the fly and later characterized in higher eukaryotes. For these reasons, Drosophila has proven to be a powerful model system to study many diseases affecting humans. The goal of this project was to help to elucidate the fly as a model system to study the effects of drugs. The experimental design incorporates pharmacological, behavioral, and molecular assays to observe the effects of methamphetamine and LSD on behavior and correlate it with neurobiological functions in the fly.

Two experimental groups, male and virgin females, were used to generate a concentration effect curve for both methamphetamine and LSD. Real-time Polymerase Chain Reaction (qPCR) assays were conducted on the flies taken at the end of the concentration effect curve experiment and several genes known to change in expression level. Based on the observed behavioral and gene expression level changes from both methamphetamine and LSD, parameters were designed for the following experiments: a feeding assay, a circadian assay, and qPCR. The feeding assay and circadian assay were performed on three different time points, two different concentrations were administered to both groups, and qPCR was performed on flies taken at the end of each time point.

Methods and Experimental Protocol

Concentration Response Curve

Results

Conclusion

Background

Psychoactive Drugs

Methamphetamine
- Classified as a Schedule II drug
- Symptoms: Increased alertness, physical activity, decreased appetite
- Chronic methamphetamine produces chemical and molecular changes in the brain
- Used as a recreational drug
- High potential for abuse and addiction
- Frequently used to treat attention deficit hyperactivity disorder

Lysergic Acid Diethylamide (LSD)
- Classified as a Schedule I drug
- Symptoms: hallucinations, decreased appetite, hallucinations
- Used as a recreational drug
- Clinical Studies for LSD Associate with Schizophrenia
- Safety and Efficacy of LSD as an Antidepressant

Capillary Feeding Assay (CAFE)

The tea stain was monitored in the set of experiments.
Chronic Binge Alcohol Administration Enhances Pre-Frontal Cortex Apoptotic Signaling In SIV-Infected Rhesus Macaques

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Introduction
- The frequency of heavy alcohol use in individuals living with HIV/AIDS is double that of the general population. Alcohol abuse increases the rate of HIV-associated neurocognitive disorder (HAND) development.
- In our non-human primate model of HIV infection, chronic binge alcohol (CBA) administration unmaskst neurocognitive deficits in SIV-infected macaques.
- Neuronal apoptosis may be an underlying mechanism for neurocognitive disorders in CBA-administered SIV-infected macaques.

We hypothesized that there is an increase in pro-apoptotic signaling in the pre-frontal cortex of CBA/SIV infected macaques.

Methods
- Male rhesus macaques were surgically fitted with a gastric cannula for the infusion of alcohol (13-14 g of ethanol/kg body weight per week; 30% w/v) or sucrose starting 3 months prior to inoculation with SIVmac251.
- Three experimental groups: CBA/SIV (n=3), sucrose/SIV (n=3), and Naive, SIV- (n=1).
- Animals were sacrificed at ~18 months after SIV.
- Brains were excised and pre-frontal cortex isolated.
- Protein expression of Bax, Bcl-2 and pAKT was determined by Western Blot. Data is normalized to beta-actin.
- BDNF mRNA expression was determined by qPCR.

Summary
- Our results showed enhanced Bax expression and suppressed Bcl-2 expression in CBA/SIV+ macaques, when compared to the sucrose/SIV+ macaques.
- The ratio between Bax and Bcl-2 suggests enhanced apoptotic signaling in CBA/SIV+ macaques.
- Decrease in pAKT and BDNF indicate less anti-apoptotic signaling in CBA/SIV+ macaques.
- These findings demonstrate the need for further investigation of the combination of alcohol and SIV infection on neuronal apoptosis in animals as a potential mechanism underlying HAND.
"Comparing HPV Ab Responses in Vaccination and Natural Infection in African American Women"

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**Background**

- Human Papillomavirus (HPV) is known but not solely responsible for causing cervical and anogenital cancers.
- Having antibody response to HPV can be beneficial in reducing the infection and combating dysplasia.
- HPV vaccinations work by generating a robust antibody response against the targeted HPV genotypes.
- This project will test the antibody response against high risk HPV 16 and low risk HPV 6/11 in African American women.
- African American women are more susceptible to contracting HPV and are undertreated in vaccine trials.

**Objectives**

- **Comparison:** The antibody titers of high risk genotypes HPV 16 versus low risk HPV 6/11
- **Conclusion:**
  - No significant differences were observed in antibody titers between the two groups.
  - African American women are at higher risk for both high and low risk HPV.
  - Our data indicates that African American women may not be completely protected from HPV, suggesting a need for continued research on the effects of HPV on this population.

**Results**

The vaccinated group received doses on the first three visits (months 6, 12, and 24). The natural infection group became antibody positive during the study.

The natural infection group is older and is HPV-positive, but the disease is being reasonably well controlled.

**Research Methodology**

- Sandwich ELISA Method

**Discussion**

The major limitations of this study were:

- The small sample size limits the ability to apply the results to a larger population.
- The overall antibody response to HPV in the vaccinated group was lower than expected, suggesting that this group may be more susceptible to HPV infection.

This research was supported by grant #R25AA021304 from the National Institute of Alcohol Abuse and Alcoholism at the National Institutes of Health.
Repeated Binge-Like Alcohol Administration Induced Adaptive Immunity in Perilymphatic Adipose Tissue

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2Department of Physiology, Louisiana State University Health Science Center, New Orleans, LA

Introduction
- Alcohol-induced adipose tissue inflammation is associated with metabolic dysregulation, increasing the risk for insulin resistance and potentially type 2 diabetes development.
- In our previous studies, acute alcohol intoxication has been found to:
  - induce mesenteric lymphatic hyperpermeability
  - promote perilymphatic adipose tissue (PLAT) inflammation
  - disrupt adipokine profile
  - increase circulating lipopolysaccharide (LPS) levels
- Additionally, we found that repeated binge-like alcohol intoxication (RBAI) also promotes PLAT inflammatory milieu.
- Related studies have shown a strong link between major histocompatibility complex class II cells (MHC II), macrophages, and T cell activation on adipose tissue inflammation and the development of insulin resistance (Cho KW et al., Cell Reports, 2014).
- We hypothesized that RBAI would increase PLAT gene expression of T cells, macrophages, dendritic cells, and monocytes promoting PLAT inflammation.

RBAI increases Cytokine Expression in PLAT

Conclusions
- Repeated Binge-Like Alcohol Administration Induced Adaptive Immunity in PLAT
- We predict that these adaptive immune changes may contribute to increased PLAT cytokine expression.
- We speculate that PLAT inflammatory milieu promotes body fat accumulation.
Introduction

It is well known that patients with alcoholic fatty liver disease develop oxidative stress and excessive iron storage in their liver which contributes to the progression of injury. The mechanisms associated with the iron overload are not well known. We hypothesized that the elimination of oxidative species by use of dietary anti-oxidants or PiT-1 Prox-1 mice, in which NADPH-oxidase (NOX) 1 & 2 are inactive, would suppress hepatic iron overload in the livers. We evaluated the effects of alcohol on iron homeostasis in the liver of rodents. We performed this study with livers from male Sprague-Dawley rats and male and female C57BL/6 and PiT-1 Prox-1 mice. Male rats had been chronically fed a high-fat diet for 130 days by using total enteral nutrition (TEN), of the same diet in which ethanol (EOH) was administered (TEN+EOH), or the same diet in which ethanol (EOH) was not administered (TEN-EOH). Additional groups were replaced carbohydrate calories with sodium acetate. The livers were harvested at 17 (5 kg-1) days. The mice were divided into four groups and either the 9% EOH diet or pair fed to match intake. We measured the expression of mRNA encoding iron storage proteins (Hepcidin), ferritin, transferrin, and ferritin receptor (FTR) using QRT-PCR. We found that mice who were fed the ethanol diet had a significantly lower expression of hepatic iron storage proteins compared to mice fed the pair-fed or control diet.

Results

- Analysis of liver samples showed a decrease in iron content in ethanol-fed mice compared to control mice.
- Hepcidin mRNA expression was significantly reduced in ethanol-fed mice.
- Ferritin and transferrin levels were also decreased in ethanol-fed mice.
- FTR expression was not affected by ethanol treatment.

Conclusions

- Ethanol intake leads to decreased iron storage protein expression in the liver.
- These findings suggest a potential role of iron homeostasis in alcoholic fatty liver disease.

References


This research was supported by grant 08251-A021M01 from the National Institute of Alcohol Abuse and Alcoholism at the National Institutes of Health.
A Comparative Study of Accuracy: Point-of-Care vs Central Lab Urinalysis in an Urban Emergency Department

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Introduction

Intuitively, central lab urinalysis is considered the gold standard, yielding more accurate results, but is often more expensive, time-consuming, and slower to deliver results. Point-of-care (POC) testing, however, is gaining attention due to its advantages of faster results, portability, and cost-effectiveness. This study aimed to compare the accuracy of POC urinalysis with central lab urinalysis in an urban emergency department.

Methods

A retrospective chart review of patient urinalysis conducted from January 2020 to December 2020 was conducted. Two blinded physicians reviewed each urinalysis. Both central lab urinalysis and POC urinalysis results were compared for accuracy in diagnosing urinary tract infections (UTIs).

Results

A total of 120 urinalysis results were reviewed. The overall accuracy of the central lab urinalysis was 98%, while the POC urinalysis accuracy was 95%. The most impactful categories for accuracy included protein, glucose, and ketones. The chi-square test for association between accuracy (0 to 4) and provider type was statistically significant (p-value = 0.03).

Discussion

The results suggest that POC urinalysis is comparable in accuracy to central lab urinalysis, with the added benefits of faster results, portability, and cost-effectiveness. This study highlights the potential for POC urinalysis to be a viable alternative in emergency departments, particularly in resource-constrained settings.

Conclusions

POC urinalysis is a feasible alternative to central lab urinalysis, offering comparable accuracy while providing faster results and cost savings. Further studies are needed to validate these findings in different settings and patient populations.
Profiles of Neuronal Activity after Brain Injury

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Benjamin Franklin High School
Mentor: Dr. Alberto Musto, Ph.D. M.D.
Neuroscience Center of Excellence

Introduction
Temporal Lobe Epilepsy (TLE), the most common form of epilepsy, is associated with previous brain injury that affects the hippocampus, the area of the brain responsible for memory and learning. The exact mechanism of how TLE occurs after brain injury is not fully understood, and the role of high-frequency oscillations (HFOs) in this process is still not clear. Researchers have suggested that HFOs play a role in the pathogenesis of TLE, but the underlying mechanisms of how HFOs are generated after brain injury are not fully understood. The goal of this study is to investigate the role of HFOs in the development of TLE and to understand the mechanisms underlying the generation of HFOs after brain injury.

Methods
A series of experiments were conducted to investigate the role of HFOs in the development of TLE. These experiments included in vivo recording of neuronal activity from the hippocampus of rat brains, in vitro recording of neuronal activity from cultured hippocampal slices, and computational modeling of neuronal networks. The data obtained from these experiments were analyzed using a combination of statistical and computational methods. The results of these experiments were then compared with the clinical data of patients with TLE to understand the role of HFOs in the development of TLE.

Results

Quantified Spikes

Figure 1: Quantified spikes showing the average number of spikes per second in different experimental conditions. 

Coherence Analysis

Figure 2: Coherence analysis showing the coherence between different regions of the hippocampus.

Results Summary

The results of this study suggest that HFOs play a role in the development of TLE. The experimental and computational data obtained from this study provide insights into the mechanisms underlying the generation of HFOs after brain injury.

Conclusion

The results of this study suggest that HFOs play a role in the development of TLE. The experimental and computational data obtained from this study provide insights into the mechanisms underlying the generation of HFOs after brain injury.

References

The Effects of Host Cell Cycle on Chlamydia trachomatis Growth

Ryan Niedermaier, Shardulendra Sherkhand and Ashok Aiyar

1 Rhodes College, Memphis, TN 2 Department of Microbiology, Immunology, and Parasitology, LSUHSC, New Orleans, LA.

Introduction

Chlamydia trachomatis (CT) is an obligate intracellular pathogen that is responsible for the most commonly reported sexually transmitted bacterial infection in the United States. The CT genome has been sequenced; however, its pathogenesis is complex and includes interactions with the host cell. The CT bacteria can be divided into two stages: the elementary body (EB) and the reticulate body (RB). The EB stage is the infective stage and can be phagocytosed by host cells, while the RB stage is the intracellular replication stage and can be transferred to new cells by direct cell-cell contact.

Cell Cycle Arrest Analysis

Table 1: Cell lines, serum-free conditions, and serum-free conditions that were used in this experiment.

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>Serum at t=0h</th>
<th>Serum at t=1h</th>
<th>Serum at t=2h</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-42</td>
<td>4.1 x 10^6</td>
<td>1.3 x 10^5</td>
<td>3.1 x 10^4</td>
</tr>
<tr>
<td>MDA-468</td>
<td>4.1 x 10^6</td>
<td>1.3 x 10^5</td>
<td>3.1 x 10^4</td>
</tr>
<tr>
<td>A549</td>
<td>4.1 x 10^6</td>
<td>1.3 x 10^5</td>
<td>3.1 x 10^4</td>
</tr>
</tbody>
</table>

IFU Measurements

Figure 6: IFU counts in the absence and presence of serum were calculated with Chlamydia inclusion shots. The IFU counts were normalized with the LPS Chlamydia antibody conjugated with ATP and analyzed using microscopy. The IFU counts were determined for both serum and serum-free conditions. The IFU counts were found to be significantly higher in the absence of serum compared to the serum-present conditions.

Cell Cycle Analysis

Figure 7: The cell cycle analysis was performed using FACS analysis, where cell cycle phases were measured and analyzed. The figure shows the percentage of cells in each phase, including G0/G1, S, and G2/M.

A549 CFDA-SE Analysis

Table 2: CFDA-SE analysis of A549 cells in the presence and absence of serum.

<table>
<thead>
<tr>
<th>Condition</th>
<th>A549 CFDA-SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum-Free</td>
<td>1.5%</td>
</tr>
<tr>
<td>Serum</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Conclusions

These results show that growth arrest of A549 cells positively affects Chlamydia growth.

Chlamydia trachomatis growth in non-dividing A549 cells produced significantly more IFUs than CT that infected dividing A549 cells.

This increase in chlamydia growth in non-dividing A549 cells compared to dividing A549 cells may be the result of Chlamydia’s inability to produce its own metabolites and the increased presence of these metabolites in non-dividing A549 cells.
Investigating the Role of Cervicitis in HIV Transmission: A Histological Analysis of Patients with Microscopic Signs of Chronic Inflammation

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Introduction

Results: Acute & Chronic Cervicitis

Aims

Methods

Results: Follicular Cervicitis

Conclusions & Discussion

Future Directions
ISG15 Sensitizes Ataxia Telangiectasia Cells to Genotoxic Stress
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Introduction
Ataxia Telangiectasia (A-T): Ataxia Telangiectasia (A-T; also known as ataxia-telangiectasia and autosomal recessive ataxia) is a rare, hereditary, childhood disease. Some early symptoms often seen in children with A-T include delayed development of motor skills, poor balance, and stunted speech. Affected individuals are also very sensitive to the effects of radiation exposure, including medical X-rays. This sensitivity has been attributed to the defective ATM gene. In A-T patients, ATM is a protein that plays a role in cell survival following DNA damage. A-T cells are more sensitive to the effects of radiation because they cannot properly repair damaged DNA, which leads to a higher risk of developing cancer.

Experimental Design
- **Genotoxic Stress:** Topotecan
- **A-T/control shRNA cells:** UV Changer
- **A-T/ISG15 shRNA cells:** MTT Assay

Figure 1
- Gene expression of ISG15 with a novel vector expressing an ISG15-specific shRNA

Figure 2
- Effect of UV on cell survival of ISG15-expressing A-T cells

Materials and Methods
- A-T (atata) cells were transduced with ISG15 or control shRNA vectors using lentiviral transduction. Cells were then treated with UV or Topotecan and cell survival was measured using the MTT assay.

Conclusions
- ISG15 in part sensitizes A-T cells to genotoxic stress.
- ISG15 in part sensitizes A-T cells to radiation-induced cell death.

Hypothesis
- ISG15 may play a role in the sensitization of A-T cells to genotoxic stress.

Summary
- The results of this study suggest that ISG15 may be a potential therapeutic target for the treatment of A-T, as it sensitizes A-T cells to genotoxic stress.

Figure 3
- Measurement of cell viability using MTT assay

Results
- Increased cell survival in ISG15-expressing A-T cells following UV treatment

Conclusion
- ISG15 sensitizes A-T cells to genotoxic stress, potentially providing a novel therapeutic target for the treatment of A-T.
CTCF Binding Motifs as Enhancer Blockers in Herpes Simplex Virus-1

Savannah Sadaiappen, Shannan Washington, Donna M. Neumann, Ph.D.

Abstract

Background Information

Results

Methods

Synthesis of Constructs

- DNA Oligos
- pCMV-δC-Rosa26-EGFP

- Resultant Recombination

- Gel Electrophoresis

- Gel DNA Recovery

- Primer: 5'-(CAAAAGTTTGCTGATGGTTAATTGTTAGCTGATGGTTAATTGTTAGCTGATGGTTAATTGTTAG

- Exonuclease

- Electroporation

- Transfection

Future Work

- Shown: CTCF motifs as enhancer blockers in HSV-1

- CTCF sites function in both a transcriptional and a transcriptional repression capacity in additional targets in the genome.

- Future experiments could focus on the effects of CTCF binding motifs in other herpes viruses, such as HSV-2 and VZV, to determine if the observed phenomenon is conserved across the herpesvirus family.
Co-localization studies of Protein Phosphatase-1 Inhibitor 2 and Lemur Tyrosine Kinase 2 in Human Embryonic Kidney Cells

Hsiao-Man Chang, Duaa Hashm, Hongtian Yang, Hugh Xia

Introduction

Though reversible protein phosphatase activity (PP1) plays vital roles in many cellular processes, and is highly regulated to maintain cellular homeostasis. Recent studies show that PP1 regulates cellular processes in various diseases. In this study, we focused on PP1 activity in embryonic kidney cells (HEK-293). We hypothesized that PP1 activity is increased in HEK-293 cells upon treatment with LMK2, a drug that induces apoptosis.

Materials and Methods

Grew HEK-293 cells in DMEM medium
- Transfection: Used Lipofectamine 2000
- Immunostaining: Used primary antibodies against PP1 and secondary antibodies

Results

A) GFP-2 localization in HEK cell

Conclusions

- Increased PP1 activity in HEK-293 cells
- LMK2 induces apoptosis in HEK-293 cells

References
