Monday July 17
How to Write an Abstract

Abstract Structure

1. Background Info
2. Hypothesis, Objective, or Problem Identified
3. Some sort of methodology
4. Results
5. Conclusions and implications

Abstract Structure

1. Background Info

   Context for the work

2. Hypothesis, Objective, or Problem Identified

   What is your question and/or hypothesis?

3. Some sort of methodology

   Key method, system, study design

4. Results

   What are the findings?

5. Conclusions and implications

   What do the findings mean, related to your purpose/hypothesis?

Things to keep in mind:

1. Consider your audience. Try to keep jargon to a minimum to engage a larger audience.
2. Make your hypothesis/purpose/objective very obvious.
3. Tie your results and conclusions back to your hypothesis/purpose/objective.
4. Make every word count.
5. Pay attention to instructions and length limitations!

J Cancer Res Ther. 2018 Dec;14(Supplement):S1170-S1172. doi: 10.4103/0973-1482.191035.

Qiu X[1], Tan H[1], Fu D[1], Zhu Y[1], Zhang J[1].

Author information

Abstract

AIM OF STUDY: Breast cancer invasion and metastasis is the main reason for the failure, and laminin is involved in it. This study intends to explore the expression of laminin in breast cancer and normal breast tissue and its clinical significance.

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Prefrontal cortex (PFC) dysfunction is widely believed to underlie working memory (WM) deficits in people with schizophrenia (PSZ), but few studies have focused on measures of WM storage devoid of manipulation. Research in neurotypical individuals has shown that storage capacity is more closely related to posterior parietal cortex (PPC) than PFC, suggesting that reductions in WM storage capacity in schizophrenia that are associated with broad cognitive deficits may be related to neural activity in PPC. In the present human neuroimaging study, 37 PSZ and 37 matched healthy control subjects (HCS) of either sex completed a change detection task with varying set sizes while undergoing functional Magnetic Resonance Imaging. The task was designed to emphasize WM storage with minimal top-down control demands. Whole-brain analysis identified areas in which BOLD activity covaried with the number of items maintained in WM (K), as derived from task performance at a given set size. Across groups, K values independent of set size predicted BOLD activity in PPC, including superior and inferior parietal lobules and intraparietal sulcus, and middle occipital gyrus. Whole-brain interaction analysis found significantly less K-dependent signal modulation in PSZ than HCS in left PPC, a phenomenon that could not be explained by a narrower K-value range. The slope between K and PPC activation statistically accounted for 43.4% of the between-group differences in broad cognitive function. These results indicate that PPC dysfunction is central to WM storage deficits in PSZ and may play a key role in the broad cognitive deficits associated with schizophrenia.

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AURKA is an established target for cancer therapy; however, the efficacy of its inhibitors in clinical trials is hindered by differential response rates across different tumor subtypes. In this study, we demonstrate AURKA regulates amino acid synthesis, rendering it a vulnerable target in KEAP1-deficient non-small cell lung cancer (NSCLC). Through CRISPR metabolic screens, we identified that KEAP1-knockdown cells showed the highest sensitivity to the AURKA inhibitor MLN8237. Subsequent investigations confirmed that KEAP1 deficiency heightens the susceptibility of NSCLC cells to AURKA inhibition both in vitro and in vivo, with the response depending on NRF2 activation. Mechanistically, AURKA interacts with the eIF2α kinase GCN2 and maintains its phosphorylation to regulate eIF2α-ATF4-mediated amino acid biosynthesis. AURKA inhibition restrains the expression of asparagine synthetase (ASNS), making KEAP1-deficient NSCLC cells vulnerable to AURKA inhibitors, in which ASNS is highly expressed. Our study unveils the pivotal role of AURKA in amino acid metabolism and identifies a specific metabolic indication for AURKA inhibitors. These findings also provide a novel clinical therapeutic target for KEAP1-mutant/deficient NSCLC, which is characterized by resistance to radiotherapy, chemotherapy, and targeted therapy.

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How can I make this more reader-friendly for an abstract book, for a broader audience?

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In this study, we demonstrate AURKA regulates amino acid synthesis, rendering it a vulnerable target in KEAP1-deficient non-small cell lung cancer (NSCLC). Through CRISPR metabolic screens, we identified that KEAP1-knockdown cells showed the highest sensitivity to the AURKA inhibitor MLN8237.

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Using a non-small cell lung cancer (NSCLC) cell line deficient in the tumor suppressor KEAP1, we did CRISPR metabolic screens while treating the cells with various AURKA inhibitors.

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What if I don't have results yet?

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Abstract Rubric

Abstract Title:

First Author:

Grammar/Spelling/English Usage		
	No Problems	+2
	Minor problems, but does not affect understanding (may indicate carelessness)	+1
	Problems – makes abstract difficult to understand	+0
Components		
	Introduction	+1
	Statement of hypothesis/question/purpose	+2
	General methods used	+1
	Primary results (not necessary)	+0
	Primary Conclusion(s)	+1
	General statement of significance of work	+1
Necessary Attributes		
	Concise	
	All essential information, within word limit	+2
	Missing something / slightly over word limit	+1
	Too long / too short, so difficult to follow	0
	Clear	
	Easy to understand what abstract is about, no jargon, all terms defined	+2
	Generally able to understand, but some unclear terms	+1
	I'm lost!!!	0
Overall Readability / Interest		
	Do you want to read the paper / see the poster?	+3
	I've got all the information I need and it's fine	+2
	I know what's going on, but it's boring	+1
	This was too tough to read!	0
OVERALL TOTAL		/15

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Key words/concepts?

- Breast cancer
- Metastasis
- Laminin
- Laminin expression high in breast cancer tissue

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Laminin is over expressed in breast cancer and facilitate cancer cell metastasis.

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Aurora Kinase A, Non-small cell lung cancer (NSCLC), amino acid synthesis, asparagine, chemotherapy target

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If you are submitting to

- SACNAS, 250 words is their limit.
- ABRCMS, the limit is 2500 characters not including spaces.
- For the VSSA poster session, the limit is 300 words.

With this structure in mind, draft an abstract

1. Background Info: 1-2 sentences
2. Hypothesis, Objective, or Problem Identified: 1-2 sentences
3. Some sort of methodology: What system? Key method used
4. Results: Short sentences
5. Conclusions and implications: 1-2 sentences

Swap with your neighbor, and provide feedback

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