

|| Medicine || The Enzyme Aurora B May Offer Hope For New Treatment Option For Cancer ||



Il Thursday: September 28: 2023 | I lpha. Researchers at the Centre for Molecular Medicine Norway:NCMM, have demonstrated the mechanisms behind the activation of Aurora B, a central conductor of cell division. Their findings can lay the foundations for developing new cancer drugs. Cell division is a fundamental process for all living things, where one cell divides into two cells. It allows for a human being to grow from a single fertilised egg cell, for wounds to heal and for dead cells to be replenished with new ones.

By the time the reader has read this sentence, millions of cells throughout a human physiology have divided themselves. When a cell divides, it happens through a series of carefully controlled steps and they happen as and when needed. Cancer, on the other hand, is characterised by cells having gained the ability to divide uncontrollably. "We can say that cancer is a cell division disease. That's

why scientists are working to find new cancer treatments, that disrupt the process of cell division, so that the cancer cells die instead of dividing." Said Dario Segura-Pena.

At NCMM Segura-Pena and colleagues in the Sekulic group have looked closer at the enzyme Aurora B, which is, particularly, important for cell division. And what they show can be used as a basis for the development of new cancer treatments. Aurora B acts as a conductor of cell division. It is activated when the cell is going to divide and makes sure that the different steps are executed correctly and in the right order.

"If, we disrupt the activity of Aurora B during cell division, the process will become so chaotic that the cell ends up dying instead of dividing. And that is exactly what we wish to happen to cancer cells." Says Segura-Pena.

In their Study, Segura-Pena and colleagues show how the activity of Aurora B is turned on and off. The goal is to use this knowledge as a basis for developing new drugs, that kill cancer cells by preventing the activation of Aurora B during cell division. Therefore, the researchers looked at the on:off-switch of Aurora B and what happens to the protein structure of Aurora B when it is turned on.

The switch in Aurora B is a tiny molecular modification, which is called phosphorylation. This involves attaching a small phosphate molecule to the enzyme in order to turn it on. It's already known that phosphorylation of Aurora B causes a dramatic increase in its activity. But the changes, that occur within Aurora B itself upon phosphorylation, was up until now not known.

"If, we compare the sizes, then the attachment of a small phosphate molecule to Aurora B is like attaching a grain of sand to a tennis ball. We wondered how such a small modification could have such a strong effect on Aurora B activity during cell division." Says Segura-Pena.

To be able to see what happens to Aurora B when it is phosphorylated, the researchers zoomed in on the molecular level. Proteins are, often, depicted as static structures but, the reality is that within the cells they are far from static. They vibrate, almost, breathe and can change their structure to perform different tasks.

"We have used a method, called, HDX-MS, that allows us to see some of these movements in Aurora B and how they change depending on whether it is turned on or off." Says Segura-Pena. Hydrogendeuterium exchange mass spectrometry: HDX-MS is a method, that makes it possible to analyse the structure and dynamics of a protein. With the help of HDX-MS and computer simulations, the researchers were able to see that the phosphorylation led to a change in the structure of Aurora B. The protein structure went from being chaotic and inactive, to organised, well-structured and synchronised in its motions.

And it is only when Aurora B is phosphorylated and organised that it can conduct the tasks, that lead to cell division. Knowing how an enzyme looks and functions helps to develop targeted drugs, that, specifically, affect the active part of the enzyme. Therefore, Segura-Pena hopes that their results

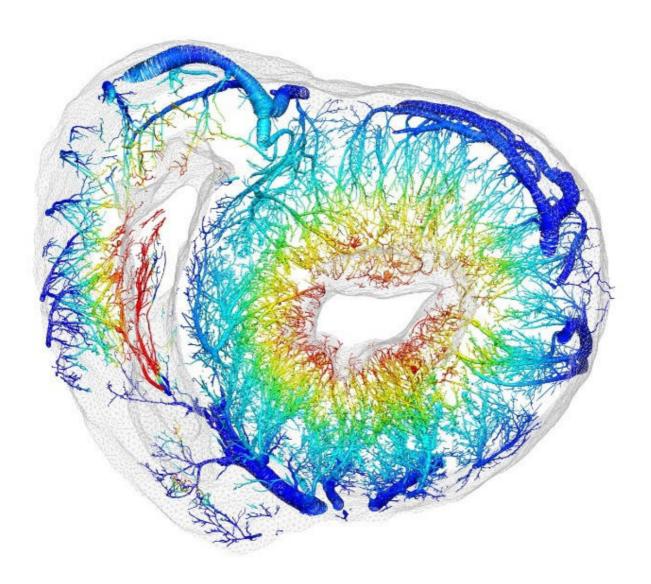
bring us one step closer to being able to develop cancer treatments, that block Aurora B activity and cell division.

"Our findings demonstrate the details around what happens on the structural level when Aurora B is activated. This gives us more avenues for developing new cancer therapies in the future." Says Segura-Pena.

Caption: Aurora Borealis as just a demonstration." ::::ω::::

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Humanics: All-For-One-One-For-All



I | Selfishness Is the Most Definitive Way to, Absolutely, Harm One's Very Own Self, As Well As, Everyone and Everything Else: In Other Words, Selfishness Is Nothing But Absolute, Complete and Comprehensive Absence of Questioning or Thoughtfulness or Consideration, Which Makes Us Think and That, Thus, Enables Us to Reach the Rational Base and Foundation in Life and in Existence: This Means That Selfishness, Actually, Is a Terminal Enemy of the Agency of the Human Mind, Which It Keeps on Tearing Away and Apart by Being Devoid of Questioning and Thoughtfulness Because the Very Agency of the Human Mind Is a 'Structure', Created by the Architectonics of the Architecture of Human Rationality, Which Requires a Human Agency of the Human Mind to Put It to Use by Thinking, Questioning, Consideration, Analysing, Learning and Developing, All of Which Selfishness Terminates: Humanics: Humanics: All-For-One-One-For-All

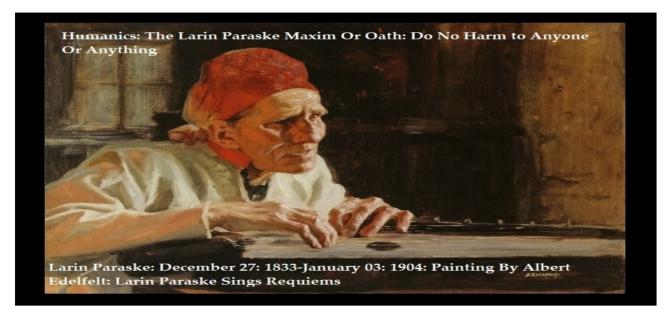


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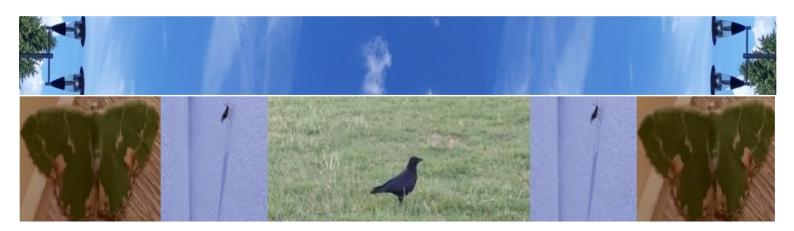
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Humanicsxian Economics



What Is Humanicsxian Economics

Say: I Carry the Infinities of Making All Beings Happy:

Say: I Commit to Organise the Largest Feast For All Humanity Where Each and Every Human Soul Sit at the Same Table of Liberty and Equality to Eat and Drink From the Bounties of This Mother Earth and of the Human Works and Labours:

Say: I Commit to An Economics That Is Clean Green Circular and Sustainable:

Say: I Commit to an Economics That Does No Harm to Anyone or Anything:

Say: I Commit to Establish an Economics That Is Founded on Moral Science So That Humanity Is Let to Be and Do Nothing But Humanity Naturale: Being and Doing an Infinity of Goodness Righteousness and Universal Harmony of Peace Unfolding Itself In By and With Social Morality of Civic Societies



And Further Say: I Commit to Found an Economics That Empowers the Entire Humanion With the Highest Degree of Education Continual and Life-Long Learning Development and Progression: Say: And Sovereignty Shall Be Returned to All Humanity Through the Direct Involvement Engagement and Participation of All Human Individual Beings Through Humanicsovics the Public Affairs Management System Run By All Citizens Working Together Without Political Parties: That Is a Human Enterprise in Humanicsovics Where Ownership Money and Their Powers and Prowess Have Been Eradicated and Replaced by Belongingship and That is Humanicsxian Economics: And Say: I Commit to Exist In By and With the High-Humanical Maxim: All-For-One and One-For-All: This Is Humanicxian Economics: This Is Why Regine Humanics Foundation Ltd and Regine Group of Publications Exist to Work and Take Forward The Philosophy Political Philosophy Political Economics and the Vision of Humanics to the Wider World and Wider Humanity For a Better Human Condition For All Humanity Across Mother Earth: One Humanity As One Humanion on One Mother Earth on One Sunnara on One Home Bay Milky Way Galaxy on One Universana: Humanity: We Are One: An Infinity Unfolding Itself: Thursday: June 25: 2020

Humanicsxian Economics in Two Phases of Humanics Pre-Humanical Phase: Kapitalawnomics

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Humanical Phase

Human Enterprise: Ownership Money and Their Powers and Prowess Are Eliminated and Replaced by Belongingship Whereby Humanity Reach Liberty and Equality and All Human Economics Endeavours Are Organised and Run Under Human Enterprise and the Whole Public Affairs Management Is Run and Conducted by Humanicsovics Whereby All Individual Humanity Work Together As Organised People Parliaments As Their Own High-Representatives: This Is Humanicsovics | | This Is What the World's Working and Non-Working Humanity on Poverty-Wage on Punishment-Social-Security on Destitution-Abandonment-No-Security and the Powerless and Homeless Humanity Must Rise to Fight For and Reject All Plastering Tinker-Works by Any Political Forces: This Is Why It Is Time to Rise As One and Unite and Organise to Begin Again: Where Are the Younger Generations: Because If We Humanity Have Any Future It Is In Your Hands Hearts Minds Souls Eyes and Vision: Believe: Humanity Naturale Is an Infinity Unfolding Itself and In Being and Doing Such Humanity Naturale We All Exist by the High-Humanical Maxim: All-For-One and One-For-All and With This Humanical Societies Appear All Across the Earth and They All Form a Grid of a Humanical Civilisation, Led and Run by All Humanity Working Together at the Highest of All Bodies: The International and Universal State and Government of the Entire Humanion

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B: Absolute Right to Breathe Natural, Fresh, Clean and Safe Air

C: Absolute Right to Necessary Nutritional Balanced Food and Drink

D: Absolute Right to Free Medical Care at the Point of Need

E: Absolute Right to an Absolute Home

F: Absolute Right to Free Degree-Level Education and Life Long Learning

G: Absolute Right to Guaranteed Social Care

H: Absolute Right to a Universal Income

I: Absolute Right to a Job

J: Absolute Right to Dignified Civic and Human Funeral Paid Through by Universal Income

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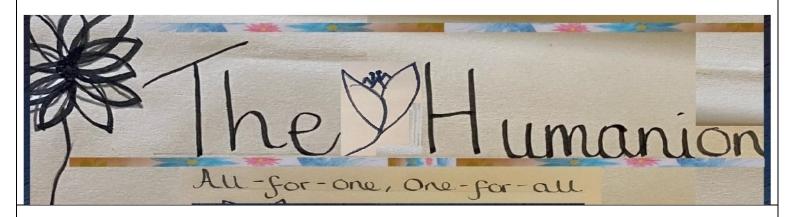
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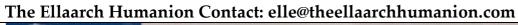
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