



EUKARYOTIC VSPROKARYOTIC

What is a eukaryotic cell?

A eukaryotic cell, or a cell that contains membrane-bound structures, is the basis for every multicellular organism, including animals, plants, and humans as well as some unicellular organisms (organisms with a single cell), such as protozoa.

Eukaryotic cells contain several membrane-bound structures, or organelles, which are specialised cellular subunits that carry out specific cellular functions. The nucleus is surrounded by the nuclear membrane, also called the nuclear envelope, which protects the genetic material stored inside. The nuclear membrane contains nuclear pores, which selectively allow only certain substances to pass through. Another membrane-bound organelle is the endoplasmic reticulum (ER). There are two types of ER: rough and smooth. The rough ER extends from the nuclear membrane, is covered with ribosomes, and is the location of protein synthesis. Meanwhile, the smooth ER is the main site of lipid and steroid synthesis. The golgi apparatus, another organelle, extends from the rough ER and is responsible for modifying and packaging proteins into their final form. Another organelle with an important role is the mitochondria, which is where most of the energy for the cell is produced. There are additional organelles that may be present in various eukaryotic cells. Each eukaryotic cell can specialise and contain a different proportion of each organelle type depending on its

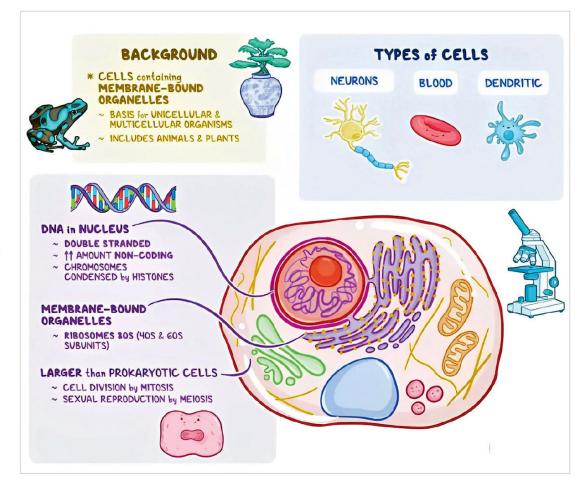
What is the difference between prokaryotic and eukaryotic cells?

The primary difference between prokaryotic and eukaryotic cells is that a nucleus and other membrane-bound organelles are only present in eukaryotic cells. Prokaryotic and eukaryotic cells make up prokaryotes and eukaryotes, respectively. Prokaryotes are always unicellular, while eukaryotes are often multi-celled organisms. Additionally, eukaryotic cells are more than 100 to 10,000 times larger than prokaryotic cells and are much more complex.

The DNA in eukaryotes is stored within the nucleus, while DNA is stored in the cytoplasm of prokaryotes. Additionally, DNA in eukaryotic cells is stored in double-stranded chromosomes that are condensed by histones. In contrast, prokaryotic cells have one primary circular chromosome and various plasmids, which are small rings of DNA. The DNA of eukaryotic cells has proportionally less coding DNA and high amount of non-coding DNA compared to prokaryotic cells. The ribosomes in eukaryotic cells are 80S, with 40S and 60S subunits, and in prokaryotic cells: 70S with 30 and 50S subunits.

The makeup of the locomotive structures (i.e., flagellum) also varies between prokaryotic and eukaryotic cells. In eukaryotic cells, flagella are microtubule bundles composed of dynein and a plasma membrane that is powered by ATP to make a blending motion. Prokaryotic locomotive structures are instead composed of repeated flagellin, a hook, and a motor complex attached to the cellular membrane that is powered by protons to make a rotator motion.

The cell types also vary in their mechanisms of cell division. Prokaryotes can undergo binary fission where one cell multiplies its contents, the cytoplasmic membrane elongates in cytokinesis separating the DNA molecules, and two identical cells emerge. All eukaryotes undergo a similar but more complicated process called mitosis. In both binary fission and mitosis, the parent cells have the exact same number of



chromosomes as their daughter cells. However, in sexually reproducing eukaryotic organisms, they can also undergo meiosis during which re-assortment creates genetically unique reproductive cells called gametes or sex cells, which have half the number of chromosomes as the parent cells, so they are known as haploids.

How are prokaryotic and eukaryotic cells similar?

All prokaryotic and eukaryotic cells have some similar features as they both contain ribosomes, genetic material, a cytoplasm, and plasma membranes. The cytoplasm is made up of cytosol, which is the intracellular fluid in which the organic material inside the cell is suspended and the place where most cellular activity occurs. Plasma membranes protect the cell and allow for transportation of materials in or out of the cells.

What are some examples of eukaryotic cells?

There are two main types of eukaryotic cells: plant and animal cells. A plant cell has a cell wall, which is a hard cellular membrane surrounding the cell; a large vacuole; and chloroplasts that undergo photosynthesis by using light as energy for the cell. In contrast, animal cells have only a cellular membrane, typically small vacuoles, and no chloroplasts.

There are many different types of animal cells, many of which are solely found in the human body. They all begin from a singular stem cell, which continues to replicate and divide and eventually differentiates into the specialised cells in the body. These specialised cells each have unique shapes and proportions of organelles depending on their function. For example, epithelial cells that line the intestines have cilia to help absorb nutrients and are labile, meaning they constantly regenerate. Meanwhile nerve cells have a long thin axon to quickly transmit information and survive for many years, so they are permanent cells.

What are the most important facts to know about eukaryotic cells?

Eukaryotic cells are cells containing membrane-bound organelles and are the basis for both unicellular and multicellular organisms. In contrast, prokaryotic cells do not have any membrane-bound organelles and are always part of unicellular organisms. Both prokaryotic and eukaryotic cells have similar features, like ribosomes, genetic material, a cytoplasm, and plasma membranes. There are two primary types of eukaryotic cells: animal and plant cells. The human body contains various types of eukaryotic cells, including neurons, intestinal cells, and blood cells.

(Osmosis)





Pale Charms

Bathing at the cold waters lantern hung in the ink sea above, is truly a charming He, and not a She, that captured the sea waves all through his charms so dwelt the pale god that so divine

Dine and wine dance and rhyme nights and lies traps up the wise

Casting spells: enchanted, on the land with his silver gaze as you do not have any one to pray, no family, no love, no proper way, different faces, different phrases, as your three times of births and pauses...

Thus, know not how to adore but left his blood, robbed some dame, on his own and by his own...

Ran in fear and hid himself above the attire of his teacher's head, as a crescent for he was shy, but was soon cursed for his deeds...

Words: Rashel Bandara

Like the Puzzle



Look how different this piece and that piece is? But they fit.

Look how different this piece and that piece is? They do not fit.

In the puzzle of life where different pieces exist not all of them fit together to form the bigger picture.

By Yudheera Karunaratne







BRITISH SCHOOL DRAMA THRILLS AUDIENCE

By Cubic DUAMBABACE

The Senior School students in The British School in Colombo unveiled their year end drama at the school auditorium recently to thrill the audience with their creativity and hard work.

Through the encouragement and support of their teachers and their own hard work and commitment, the children showcased their talents to a packed audience with their outstanding performances.

outstanding performances.

The event was a wonderful opportunity to showcase the young talent at The British School in Colombo and an opportunity for these young performers to build their confidence and nurture their passion for performing.















By Nirupa Mohan Dore

The adventure infused action-thriller, Flight Risk, released recently in Sri Lanka and in selected countries around the world, with the tagline "Y'all need a pilot?" The film written by Jared Rosenberg, tells a story about a U.S. marshal and a government witness who finds themselves in a dangerous situation, mid-fight.

The film primarily features three stars in lead roles, with Mark Wahlberg as Pilot Daryl Booth, Michelle Dockery as Deputy U.S. Marshal Madelyn Harris, and Topher Grace as Winston, the informant, alongside a small supporting cast who play brief on screen and voice cast roles at the beginning, and again close to the end of the film.

The story begins by introducing Winston, an accountant who is in hiding, in a very remote area in Alaska, but is suddenly arrested by Deputy U.S. Marshal Madolyn Harris and two officers. Winston soon offers to make a deal to become an informant, and as a result, he boards a small plane, accompanied by Harris, and who they think is Daryl the pilot, to transfer them to Anchorage, so they can travel to New York, where he will be a valuable government witness. The core plot unfolds midair, over the Alaskan wilderness, as tensions erupt, when they realise that the pilot on board is not who they thought he was, given that he has his own intentions.

The film's plot revolves around their flight as the title suggests, with Harris

and Winston, constantly finding themselves in a dangerous situation, not knowing who to trust, both on the plane and on land, while trying to find a way to manage the situation, survive, and eventually try to land before they run out of fuel.

This is a story that offers moderate to fast pacing, with intense moments, conflict and drama, which is encouraged by dialogue and a sense of conspiracy. In what should have been a quick transfer flight, the plot takes viewers on a journey with the lead characters, onboard a flight with more turbulence than what was

needed to keep the movie going.

Flight Risk has been confused by some with Flight/Risk (2022), which is a documentary which examines the Boeing 737 Max airplanes which tragically crashed, five months apart, one near Indonesia and the other in Ethiopia. This new film, Flight Risk, is completely non-related, and offers a fictional story.

The 91-minute film by the renowned actor and award-winning director Mel Gibson, was made together with producers John Davis, Bruce Davey, and John Fox, working in collaboration with production companies Icon Productions,

Davis Entertainment Company, and Hammerstone Studios, with distribution by Lionsgate Films.

Flight Risk was made with a budget of twenty-five million dollars and went on to rake in just over twelve million at the worldwide box-office, plagued by low to moderate ratings, with 24 per cent featured on Rotten Tomatoes, 38 per cent on Metacritic, and 5.6/10 on IMDb. The low ratings reflected on reviews which were unfavourable, with negative comments from both viewers and critics alike, aimed at the film's inconsistent suspense elements, rocky humour, and attempt at a subplot over the phone about a mole at the department.

Filmed in Nevada and Alaska, with incredible scenic views, the production by the director of Braveheart (1995), The Passion of the Christ (2004), Apocalypto (2006) and Hacksaw Ridge (2016), Mel Gibson, was edited by Steven Rosenblum, with cinematography by Johnny Derango, and music by Antonio Pinto. This is a film that starts strong in its first act but soon goes downhill with a plot that lacks ambition, depth, and sope.

Flight Risk is a film that fans of the lead cast can appreciate for their performance, which is a justifiable reason to watch the film, even though it could have been shorter, but with a crazy assassin as a pilot, the movie trailer says it all. This is a surprisingly bumpy flight, which is not worth watching on the big screen





SUNDAY 2 FEBRUARY 2025



KIT CONNOR:

THE SHY BOY WHO ROSE TO FAME WITHOUT BEING PIGEONHOLED

Early Life and Career Beginnings

Kit Connor, a British actor, first gained recognition in 2019 for his role as a young Elton John in Rocketman. Growing up in Croydon, he began acting to overcome shyness and landed his first significant role at 9 in Get Santa. Connor's early career also included supporting roles in television series like Rocket's Island and War and Peace, as well as minor appearances in films such as The Guernsey Literary and Potato Peel Pie Society. His passion for acting quickly blossomed from a hobby into a career, allowing him to mature rapidly due to his extensive time on film and television sets.

Rise to Fame

Connor's portrayal of Nick Nelson in Netflix's Heartstopper catapulted him to fame. The show, based on Alice Oseman's comic, centres around the relationship between two teenagers. The series became a global success, making Connor a star overnight. The first season, released in April 2022, ranked among the most watched shows on Netflix in over 50 countries. Fashion brands soon invited him to their shows, and magazines clamoured to photograph him for their covers. His social media following skyrocketed, with 6.2 million followers on Instagram alone.

Privacy and Personal Life

Connor values his privacy and has distanced himself from social media to preserve his personal space. He enjoys the normalcy of everyday activities and prefers to keep his personal life private. In a candid conversation with *Teen Vogue*, he expressed his desire for privacy and the importance of maintaining a sense of normalcy. Connor also emphasised that, despite the necessity of social media for

promoting his work, he prefers to keep his distance and retain his personal space.

Recent Achievements

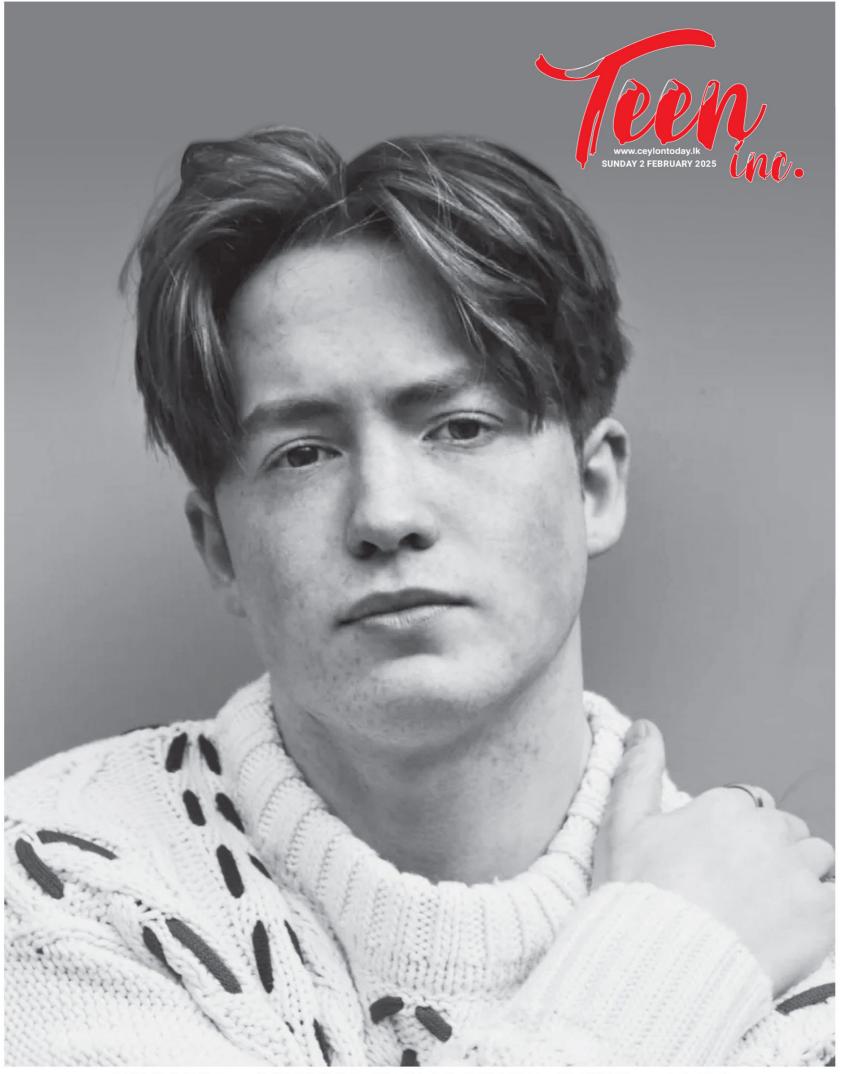
Connor made his Broadway debut in Romeo + Juliet, directed by Sam Gold, where he stars alongside Rachel Zegler. Despite mixed reviews, this production has allowed him to showcase a different range of talent. He has expressed a desire for varied roles, stating that he does not want to be confined to a specific type of role. In addition to his Broadway debut, Connor continues to diversify his roles with three upcoming films: A Cuban Girl's Guide to Tea and Tomorrow, a romantic comedy based on Laura Taylor Namey's book; Warfare, a war drama starring alongside Noah Centineo and Michael Gandolfini; and One of Us, a horror film where he takes the lead role.

Future Prospects

While a fourth season of Heartstopper has not been confirmed, Connor's career shows no signs of slowing down. With multiple projects in the pipeline, he certainly won't have time to be bored. His upcoming films span entirely different genres, demonstrating his commitment to not being pigeonholed. Regardless of what happens with Heartstopper, Connor's future in the entertainment industry looks incredibly promising

(English Elpais)





Published by Ceylon Newspapers (Pvt) Limited, 101, Rosmead Place, Colombo 7 and printed at its press at No. 302/1A, Minuwangoda Road, Ja-Ela.