مختبر مكافحة المنشطات قطر
Anti Doping Lab Qatar

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NEWSLETTER

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Contents

Stamina Or Steroids?

جـــرأة أم جـــرعـــة؟

Anti-Doping Lab (ADL) Qatar is the first specialized laboratory of its kind in the Middle East. The state of the art facility will provide anti-doping testing for athletes across the Gulf region as well as West Asia and the rest of the world. Doping control tests will be administered during competition, training and even in the off-season to catch cheats and protect athletes.

Supported by a team of highly qualified scientists, ADLQ is already compliant with ISO/IEC17025. Has already achieved the WADA accreditation for blood analysis in support of the Athlete Biological Passport (ABP). And ADLQ is officially accredited by the World Anti-Doping Agency (WADA) in August 2015, joining an elite group of only 35 labs that have won WADA›s endorsement so far.

ADLQ since accredited has been analyzing tests for major

يعد مختبر مكافحة المنشطات قطر أول مختبر متخصص من نوعه في منطقة الشرق الأوسط وغرب آسيا. ويوفر هذا المختبر، المجهز بأحدث ما توصل اليه العلم من وسائل الاختبارات المعملية، إمكانية اجراء الاختبارات والتحاليل للرياضيين في منطقة الخليج العربي بالاضافة الى غرب آسيا وبقة دول العالم.

ويتم آداء تلك المهام خلال دورات المنافسات الرياضية واثناء التدريبات وحتى في مواسم العطلات للعثور على من يمارس الغش وبهدف حماية الرياضيين الجادين.

وقد حصل المختبر على شهادة الأيزو IEC 17025 كما حصل على الاعتماد الخاص باجراء فحوصات جواز سفر دم الرياضيين من قبل الوكالة العالمية لمكافحة المنشطات وذلك في شهر فبراير من عام 2014.
كما حقق المختبر هدفه الأساسي في الحصول على الاعتماد الدولي الكامل من الوكالة رسميا وذلك في شهر اغسطس من

عام 2015 ليصبح واحدا من 35 مختبر معتمد عالميا فقط.

ومنذ اعتماده، فقد قام المختبر باجراء التحاليل المختلفة لبطولات عديدة في داخل دولة قطر وفي خارجها مثل: دورة الألعاب الثانية لدول مجلس التعاون الخليجي (أكتوبر 2015)، بطولة العالم للسباحة فينا (نوفمبر 2015) واخرى غيرها.

من خلال موقعه في منطقة أسباير زون يسعى مختبر مكافحة المنشطات قطر (ADLQ) لبذل قصار جهوده للقضاء على استخدام وتعاطي العقاقير المنشطة في كافة الرياضات و ان يحافظ على المبادئ الاوليمبية الاصيلة من العدالة والمساواة في الفرص وتشجيع الروح الرياضية النقية. وخلال السعي لتحقيق تلك الاهداف، فان المختبر يتطلع الى جعل الرياضة بجميع ميادينها و اشكالها أكثر عدالة، وأمانا، وصحة لكل من يهتمون بها، وفي طليعتهم الرياضيون.يعد مختبر مكافحة المنشطات قطر أول مختبر متخصص من نوعه في منطقة الشرق الأوسط وغرب آسيا. ويوفر هذا المختبر، المجهز بأحدث ما توصل اليه العلم من وسائل الاختبارات المعملية، إمكانية اجراء الاختبارات والتحاليل للرياضيين في منطقة الخليج العربي بالاضافة الى غرب آسيا وبقة دول العالم.

championships here in Qatar as well as other parts of the world like: 2nd GCC Games (Oct., 2015), IPC Athletics World Championships (Oct., 2015), FINA Swimming World Cup (Nov., 2015), and AFC U-23 Championship (Jan., 2016) and many others. In addition to its main role of fighting Doping, ADL Qatar also strives to make drug education part of health education, lay down norms regulating the use of technology in sport and provide accurate and current information to athletes to help them think critically and make the wise choice of avoiding doping in any form.

Annually, ADLQ hosts its symposium which has become an international event that is dedicated to issues related to sport, doping and science. It has started in 2011 under the theme (The Fight against Doping), then 2012 (Biomedical and Translational Research), 2013 (the History of Doping and Anti-Doping), 2014 (Anti-Doping; Sport Integrity and Public Health) and 2015 (Global Trends in Anti Doping Research). The event is meant to raise awareness on the topics discussed and presented by the experts of their fields from inside Qatar as well internationally, and the symposium is open to public.

ADLQ is Now on Instagram: Join Our Digital Community!

Connect With Us on Instagram!

Anti-Doping Lab Qatar (ADLQ) is officially on Instagram! We are excited to bring our mission of clean sport and scientific excellence straight to your feed.

Follow us for a unique, behind-the-scenes look at our cutting-edge laboratory operations, updates on our groundbreaking sports science research, and news regarding our regional and international partnerships. Whether you are a student, an athlete, a fellow researcher, or just passionate about fair play in sports, our new page is the perfect way to stay connected with the daily life and milestones of ADLQ.

Scan the QR code below or search for @antidopinglabqatar to follow us today. Let's shape the future of clean sport together!

Harmonizing Excellence: ADLQ Adopts the Seven National Values Alongside Our Core Pillar of Quality

In a landmark step toward institutional integration, Anti-Doping Lab Qatar (ADLQ) has officially transitioned its value system to align with the Seven National Civil Service Values. This strategic evolution, endorsed by the Board of Trustees, unifies our internal culture with the national standards governing public service across the country.

A Values System Shaped by You

This transition was built on the foundation of transparency and staff engagement. Through a series of internal discussions and a comprehensive survey, the ADLQ family played a decisive role in defining our ethical path forward.

The results highlighted a remarkable sense of unity:

• Broad Consensus: Approximately 76% of all survey participants fully supported the shift toward the National Values, recognizing the importance of standardizing our principles with the broader government framework.

The Final Framework: Our Seven Core Values

Listening closely to this feedback, ADLQ has wholly embraced the seven Government National Values to ensure institutional alignment. These core principles will continue to guide the specialized, high-accreditation nature of our scientific work.

Our official values are now:

Defining our Professional Conduct

These seven values represent a set of behavioral and ethical principles that govern our conduct as public employees. They are designed to foster a more productive, transparent, and respectful work environment, ensuring that every member of the ADLQ family is working toward the same standard of excellence.

The Implementation Phase

The transition is already underway. The Communications Department, in collaboration with all relevant sectors, is executing a plan to embed these seven values into our daily operations.

Staff will soon see these values reflected in our physical and digital environments; from updated branding on printed materials and office equipment to interactive workshops designed to reinforce these principles in our professional lives. Together, we are aligning our legacy of precision with the national vision for a stronger future.

Below is a showcase of our updated Strategy map; utilizing our new values.

Visit to ADLQ From University of Kalba

Strengthening Academic Horizons: University of Kalba's Inaugural High-Level Visit to ADLQ

A high-level delegation from the University of Kalba conducted an inaugural visit to ADLQ, marking a significant milestone in establishing a strategic academic partnership. The distinguished delegation was led by H.E. Prof. Najwa Alhosani, Chancellor of the University of Kalba and H.E. Prof. Farah Naja, Professor at the College of Health Sciences, University of Sharjah.

The visit was characterized by a dynamic and forward-looking exchange, with both institutions engaging in in-depth discussions on collaborative opportunities, pioneering research initiatives, and avenues for meaningful knowledge exchange. This landmark engagement laid a strong foundation for a mutually beneficial partnership, underscoring a shared vision for excellence, innovation, and impactful contributions to the academic and research landscape.

Visit to ADLQ By Peter Van Eenoo 21-02-2026

Expert Visit Strengthens Our Doping Control Capabilities

Knowledge sharing among WADA-accredited laboratories and scientists is a cornerstone of the global Anti-Doping system established by the World Anti-Doping Agency (WADA). According to the World Anti-Doping Code and the International Standard for Laboratories, collaboration and the exchange of scientific knowledge are essential to ensure harmonization, accuracy, and continual improvement in testing methods. By sharing research findings, analytical techniques, and emerging detection strategies, laboratories enhance their ability to identify new doping substances and methods, thereby staying ahead of evolving cheating practices.

This collective approach also promotes consistency in results across different regions, strengthens quality assurance, and supports the development of innovative technologies. Ultimately, effective knowledge sharing fosters trust in the Anti-Doping system and upholds the integrity of sport worldwide.

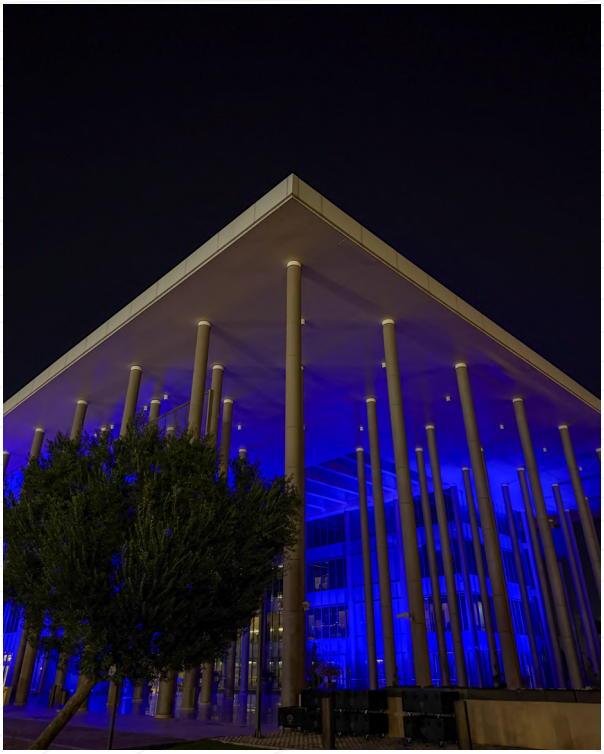
ADLQ recently had the privilege of hosting Professor Peter Van Eenoo who is Professor in the Department of Diagnostic Sciences and Director of the Doping Control Laboratory (DoCoLab) at Ghent University in Belgium. During his short but valuable stay valuable in depth technical discussions and knowledge took place among selected scientists. The visit focused on knowledge sharing on implementation of best practices across all critical aspects of doping control analysis.
The visit also included productive exchanges on Standard Operating Procedures, emphasizing the importance of clear documentation, version control, and staff training to maintain analytical integrity and traceability. Open discussions allowed our team to raise laboratory-specific questions related to workflow optimization, quality control strategies, and continuous improvement under ISO/IEC 17025 and WADA requirements.

Beyond technical topics, the visit showed a collaborative atmosphere that encouraged knowledge sharing and alignment with international anti-doping standards. The feedback received from Peter, provided valuable guidance for enhancing our laboratory practices and reinforcing our commitment to scientific excellence and regulatory compliance.

We extend our sincere appreciation to Professor Peter Van Eenoo for sharing his expertise and experience.

ADLQ Lights Up Blue in Support of World Autism Awareness Day

A Display of Solidarity: ADLQ Goes Blue for Autism



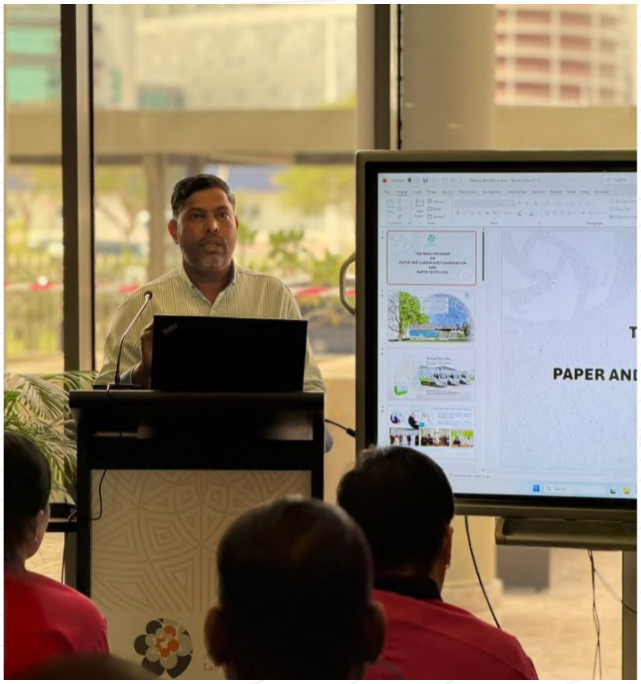
On April 2nd, the Anti-Doping Lab Qatar (ADLQ) proudly illuminated its state-of-the-art facility in blue to mark World Autism Awareness Day. Aligning with the 2026 global theme, “Autism and Humanity – Every Life Has Value,” this visual display of solidarity underscores our institutional commitment to fostering an inclusive society that champions neuro-diversity.

While ADLQ’s core mission is dedicated to safeguarding the integrity of sport through advanced scientific research and testing, our values are deeply rooted in supporting broader health and community initiatives across Qatar. By lighting it up blue, we join national partners and millions around the globe in a shared effort to move beyond mere awareness. We stand in support of true acceptance, recognizing the unique perspectives, talents, and inherent value that autistic individuals bring to our communities, workplaces, and the scientific field.

We thank everyone who joined us in observing this important day and remain committed to advocating for an environment where every individual has the opportunity to thrive.

Paper Recycling Initiative: A Step Towards a More Sustainable Workplace

مبادرة إعادة تدوير الورق: خطوة نحو بيئة عمل أكثر استدامة



As part of the Anti-doping lab ongoing commitment to environmental responsibility and alignment with Qatar National Vision 2030, a new sustainability initiative has been launched to promote paper recycling within the workplace.

The lab has partnered with Elite Paper Recycling Company, a specialized company in collecting and processing recyclable paper and cardboard materials. This collaboration aims to reduce paper waste, optimize resource utilization, and contribute to environmentally responsible practices across the organization.

Under this initiative, dedicated recycling bins have been strategically placed across the lab building to collect paper and cardboard waste. Employees are encouraged to

في إطار التزام المختبر المستمر بالمسؤولية البيئية، ومواءمةً مع رؤية قطر الوطنية 2030، تم إطلاق مبادرة جديدة لتعزيز الاستدامة من خلال إعادة تدوير الورق داخل بيئة العمل.

وقد قام المختبر بالتعاون مع شركة النخبة لإعادة تدوير الورق، وهي شركة متخصصة في جمع ومعالجة المواد القابلة لإعادة التدوير مثل الورق والكرتون، بهدف تقليل النفايات الورقية وتعزيز الاستخدام الأمثل للموارد، بما يدعم الممارسات البيئية المسؤولة داخل المؤسسة.

وفي إطار هذه المبادرة، تم توزيع حاويات مخصصة لإعادة تدوير الورق والكرتون في مواقع مختلفة داخل مبنى المختبر، حيث يُشجَّع جميع الموظفين على المشاركة الفعّالة من خلال وضع المواد القابلة لإعادة التدوير في الحاويات المخصصة، مع التأكد من نظافتها وخلوها من بقايا الطعام أو أي ملوثات

أخرى، لضمان كفاءة عملية إعادة التدوير.

كما تم تنظيم ورش تدريبية للموظفين وطاقم النظافة في المختبر، بهدف توعيتهم بأهمية إعادة التدوير وآلية الاستخدام الصحيح للحاويات، مما يعزز نجاح المبادرة واستدامتها.

ولا تقتصر هذه المبادرة على تقليل النفايات فحسب، بل تسهم أيضًا في ترسيخ ثقافة الاستدامة بين الموظفين، حيث يلعب كل فرد دورًا مهمًا من خلال ممارسات بسيطة تعزز الحفاظ على البيئة وتدعم أهداف المختبر في هذا المجال.

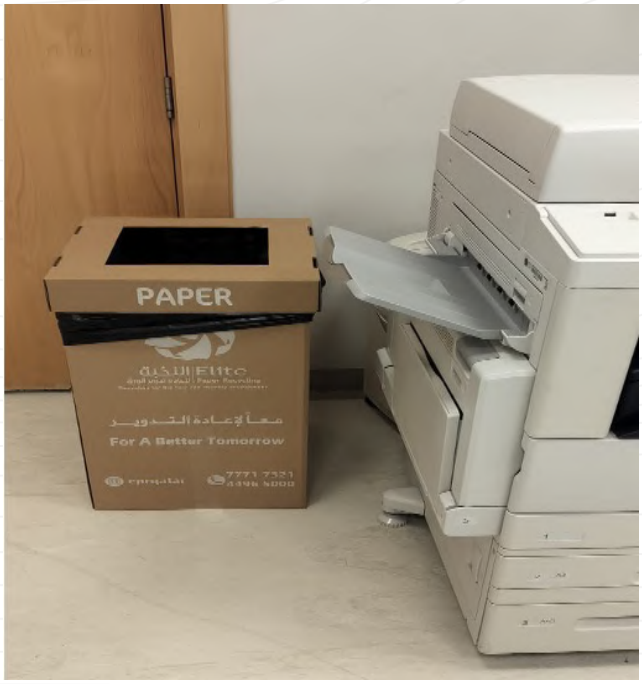
وقد بدأ تنفيذ برنامج إعادة التدوير رسميًا اعتبارًا من 31 مارس 2026، في خطوة تعكس التزام المختبر ببناء بيئة عمل أكثر استدامة ومسؤولية تجاه البيئة.

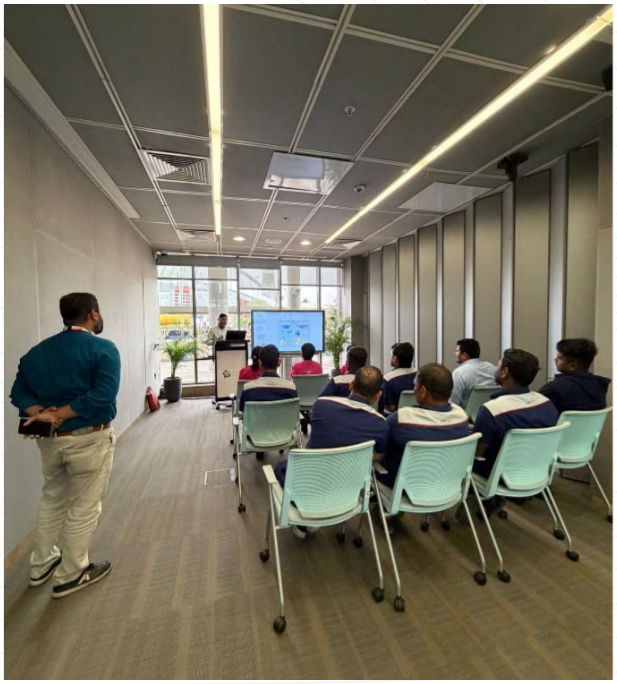
actively participate by disposing of recyclable materials in the designated bins, ensuring that items are clean and free from food or other contaminants to maintain the effectiveness of the recycling process.

Training workshops were also conducted for employees and the cleaning staff at the lab to raise awareness about the importance of recycling and the proper use of recycling bins, thereby enhancing the success and sustainability of the initiative.

This initiative not only supports waste reduction efforts but also reinforces a culture of sustainability among employees. By taking small, consistent actions, staff members play a key role in minimizing environmental impact and supporting the lab broader sustainability goals.

The recycling program officially commenced on 31 March 2026, marking an important step toward building a more sustainable and environmentally conscious workplace.





Advancing Institutional Performance at ADLQ

Strategic Meetings Set the Course for ADLQ's Improvement Initiatives

The Office of Strategy, in collaboration with the Excellence Committee, led a series of structured meetings with department managers to identify and address key improvement areas based on the Qatar Excellence Award Feedback Report.

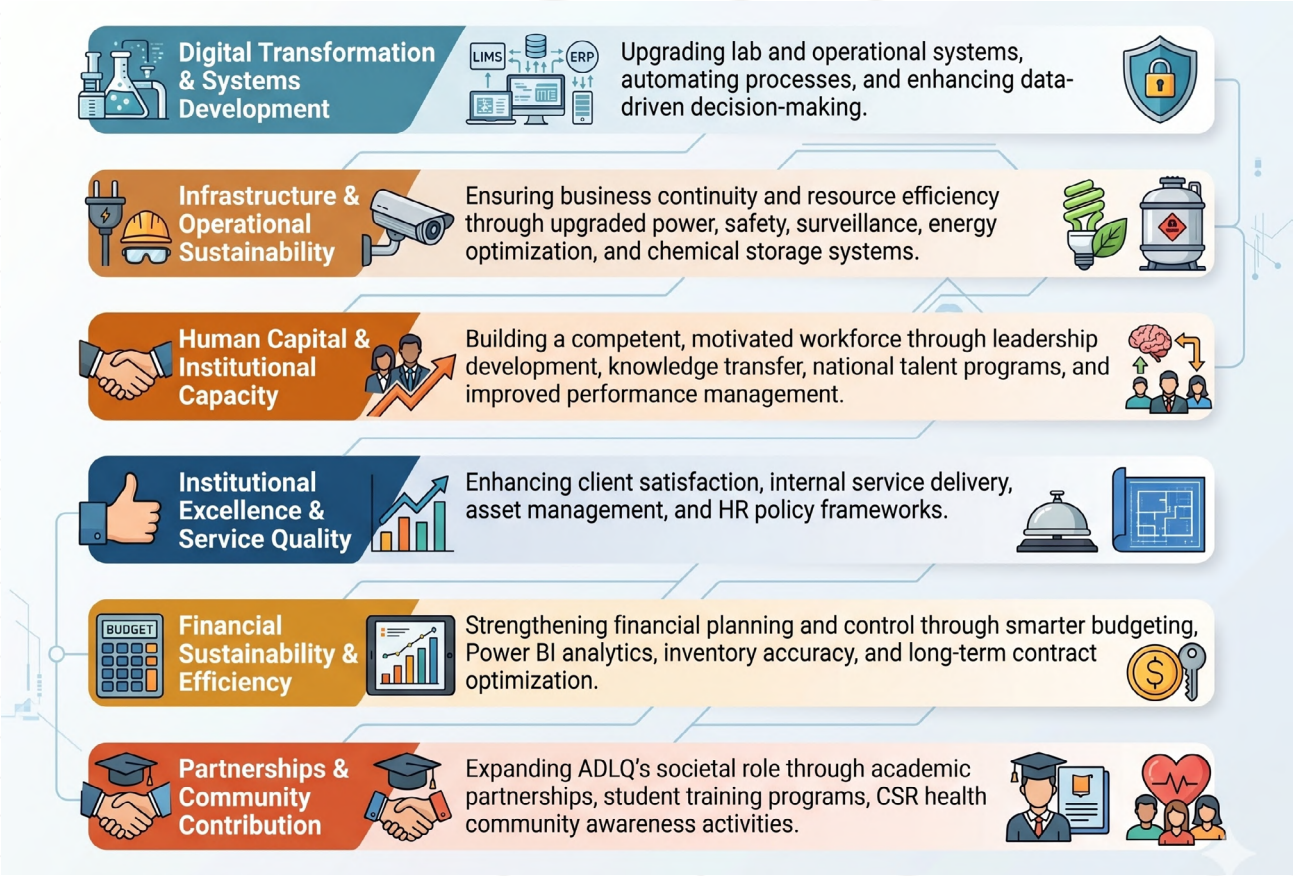
These improvement efforts were designed to support the achievement of ADLQ's strategic goal of Organizational Excellence within the ADLQ Strategy (2023–2030), while ensuring strong alignment with the Third Qatar National Development Strategy (2024–2030).

This initiative reflects ADLQ's commitment to enhancing institutional performance and advancing government excellence outcomes.

ADLQ 2026 Project Portfolio

A Comprehensive Agenda for Institutional Development and Operational Excellence

2026 Project Categories



ADLQ's 2026 project portfolio reflects a broad institutional development agenda spanning six areas. Collectively, these initiatives are designed to advance operational excellence, strengthen our workforce, modernize infrastructure, and deepen community engagement — all in support of the ADLQ long-term strategic direction.

Unlocking the Body's Secret Weapon to Superhuman Stamina

12/03/2026 – by Dr. Afnan Saleh Al-Menhali

What happens to our bodies during exercise? What is it that enables some people to endure prolonged physical effort while others reach their physiological limits far sooner?

To answer these questions, we must venture deep inside the human body, exploring the secrets at the molecular level. Relying on scientific findings, we can begin to understand how endurance truly works, and, more importantly, how we might cultivate it and improve it.

The Cascade That Powers Endurance

When we examine the mechanisms of the body and its muscles during physical exercise, we find that the essential element that allows the body's fuel to be converted into usable energy is oxygen. So long as a steady supply of oxygen reaches the muscles, energy continues to be generated, and the muscles continue to move.
The delivery of oxygen to skeletal muscle is mediated through the bloodstream. Oxygen is bound and transported by hemoglobin, a remarkable protein within our red blood cells whose main purpose is to carry oxygen to wherever the body needs it. In simple terms, more red blood cells mean more hemoglobin, and more hemoglobin means more oxygen reaching the muscles. Thus, the key principle of enhanced stamina lies in the maintenance of high and continuous blood production.

Let us walk through how this process takes place. At its very foundation, this process begins when oxygen levels in the blood fall below the normal level, a condition known as a cellular hypoxia. This condition gets immediately detected by molecular sensors inside cells. When these sensors detect the deficit, they dispatch signals that trigger a cascade of physiological responses; ultimately stimulating the production of red blood cells. The molecular architect behind red blood cells production process is a protein known as erythropoietin (EPO).

Activating Your Genes for Superior Stamina

Every individual exhibits a distinct capacity to synthesize EPO; a variation modulated primarily by an individual's genetic makeup and by the physiological demands imposed through physical exertion or environmental conditions. Interestingly, we can cultivate and harness the body's biochemical machinery to up regulate EPO production by stimulating a cellular hypoxia. This can be achieved by enhancing our endurance capacity through sustained aerobic exercise, which pushes body's maximal oxygen consumption (VO_2 max). This physiological stress triggers the body to increase oxygen delivery in the bloodstream; primarily by stimulating the production of red blood cells and improving cardiovascular efficiency.

Over time, this repeated demand for oxygen initiates a cascade of adaptive responses at the cellular and molecular level.

Key genes and signaling proteins are activated to prepare the body for ongoing oxygen requirements, ultimately improving the muscles' ability to sustain prolonged physical effort. In fact, it was found that athletes performing endurance exercises have 35% more hemoglobin mass than the general population. However, it is equally important to support this adaptive mechanism by a comprehensive nutritional plan to ensure adequate supply with all essential elements to execute these processes.

How to Harness the Power of the Mountains?

Cellular hypoxia is a well-established trigger for erythropoietin (EPO) production; but **could we deliberately mimic a hypoxic environment to replicate these very effects? Could training in a reduced-oxygen setting serve as the key to unlocking the body's own natural EPO response?**

Absolutely. Studies have confirmed that training at high altitudes stimulates blood production in the body and increases oxygen levels in the bloodstream. This, in turn, helps enhance athletic performance, particularly in endurance-based activities. An elevation range of 2,100 to 2,500 meters has been proposed as the optimal altitude, with a duration of three to four weeks recommended to achieve the best results

However, be cautious; training at altitudes exceeding 3,000m may adversely affect your athletic performance and negate any gains achieved. Worse still, it carries the risk of inducing altitude sickness.

The Dark Era of Blood Doping: The Audacity to Steal the Gold

Blood doping is the practice of artificially boosting red blood cells to improve athletic endurance. It has cast a long shadow over professional cycling for decades. The scandal began at the 1984 Los Angeles Olympics, when seven members of the U.S. cycling team used prohibited blood transfusions and went on to win nine medals. All forms of blood doping were banned that same year.

In 1987, a synthetic drug that mimics EPO action in the body called recombinant human erythropoietin (rHuEPO) became available in markets, originally designed to treat anemia patients. Athletes quickly exploited it for performance enhancement, and its misuse has been associated with the unfortunate deaths of several elite European cyclists. It was promptly banned in sport.

The 1998 Tour de France exposed just how widespread the problem had become. An entire professional team, Festina, was expelled from the race and criminally prosecuted for systematic doping of different substances including erythropoietin. A later analysis found that over a 16-year period, nearly 40% of all top-10 Tour de France finishes were achieved by riders who had received doping sanctions.
The most famous case of all involves Lance Armstrong, seven-time Tour de France champion, who was stripped of all his titles and banned for life after evidence confirmed his use of EPO and other prohibited substances.

Reference: Jakovac, D. & Belamarić, M. (2025). Physiological Implications Of Erythropoietin On Endurance Sports Performance. Hrvatski športskomedicinski vjesnik, 40 (2), 123-131.

Carbon Monoxide Doping: When Poison Becomes Performance Enhancement - A surprising new frontier in anti-doping science

–By Houda Sliman

When we think about doping in sport, most of us immediately picture anabolic steroids, EPO, or stimulants. But recently, something unexpected has entered the conversation: carbon monoxide (CO). **Yes, the same gas we associate with toxicity and danger is now being considered as a potential performance-enhancing method.** At first glance, this sounds counterintuitive. Carbon monoxide reduces the blood's ability to carry oxygen, which should harm performance. However, when used in very small and controlled amounts, it can trigger a physiological response in the body. By binding to hemoglobin, CO temporarily reduces oxygen transport. In response, the body compensates by stimulating the production of red blood cells. Over time, this can lead to an increase in total hemoglobin mass—similar to what athletes aim for with altitude training or even EPO.

This is where the concern begins. The World Anti-Doping Agency (WADA) has recognized that this method could be misused and has therefore included carbon monoxide rebreathing under prohibited methods. What makes this particularly interesting is that this approach did not originate in doping. In fact, CO rebreathing is widely used in sports science. It is considered one of the most accurate methods to measure total hemoglobin mass in athletes. Under strict medical supervision, small doses of CO are safely administered for research purposes. However, like many tools in science, what is beneficial in one context can be misused in another. At present, there are no widely reported anti-doping cases directly linked to carbon monoxide misuse. **But WADA's decision to act early reflects a proactive approach—addressing potential abuse before it becomes widespread.**

For anti-doping laboratories, this presents a unique challenge. Unlike traditional doping substances, carbon monoxide does not leave behind clear markers that can be detected using standard GC-MS/MS or LC-MS/MS techniques. There are no metabolites to track, and the compound itself is eliminated relatively quickly. One possible approach is to measure carboxyhemoglobin levels in blood. However, this is not straightforward. Levels can also be influenced by environmental exposure or smoking, making interpretation difficult. This means that laboratories may need to rely more on indirect evidence, such as changes in hematological parameters within the Athlete Biological Passport.

Ultimately, carbon monoxide doping highlights a broader shift in anti-doping science. The focus is moving from simply detecting substances to understanding and monitoring physiological changes in the body. It raises important questions for the future: Are we equipped to detect methods that leave almost no trace? Will biological profiling become more important than traditional analytical techniques? And how can laboratories stay ahead in this evolving landscape? One thing is clear: anti-doping is no longer just about chemistry, it is increasingly about physiology.

References: 1. CORP: The assessment of total hemoglobin mass by carbon monoxide rebreathing Christoph Siebenmann , Stefanie Keiser , Paul Robach , Carsten Lundby -PMID: 28663373 DOI: 10.1152/japplphysiol.00185.2017 2. World Anti-Doping Agency Prohibited List (2026)

Advancing the frontlines of anti-doping science: Camelid nanobodies for next-generation detection

by Dr. Konduru Seetharama Sastry

The persistent challenge of rHuEPO in sports: In the high-stakes world of elite endurance sports, the illicit use of recombinant human erythropoietin (rHuEPO) remains a critical challenge for anti-doping organizations. Despite its strict prohibition by the World Anti-Doping Agency (WADA), detecting this potent performance-enhancing agent in athlete biological samples is notoriously difficult. Traditional mass spectrometry methods, while specific, often lack the sensitivity required for trace-level detection and are not suited for high-volume screening. **To protect the integrity of sport, there is a pressing need for innovative, highly sensitive immunological assays capable of detecting picogram quantities of banned substances.**

A pioneering solution: The nanobody platform:

Our Research Department is addressing this need by pioneering the development of camelid-derived nanobodies (VHH fragments) as next-generation detection tools. These unique antibody fragments offer superior properties for diagnostic applications: they are remarkably stable, highly specific, and can be engineered to bind targets with exceptional affinity. This makes them ideal candidates for creating ultra-sensitive tests that can outperform conventional antibodies, particularly for low-abundance biomarkers like rHuEPO in complex biological samples.

From setback to success: Establishing a flagship platform:

The journey to establish this cutting-edge technology at ADLQ has been one of resilience and innovation. After initial technical challenges halted progress in 2016, our team recommitted to the project in 2022. Through meticulous troubleshooting and process optimization, we have successfully built and validated a robust nanobody discovery and engineering platform-a first for our laboratory. This strategic achievement now positions ADLQ at the forefront of a transformative area in bio-detection.

Proof of concept: Successful generation and collaborative characterization:

The platform's viability has been demonstrated through a successful collaboration with University College London (UCL). We have generated and initially characterized nanobodies against six high-priority therapeutic targets. Notably, nanobodies against four of these targets underwent advanced characterization as the cornerstone of Master of Research (M.Res) projects completed by our staff in partnership with UCL. Conducted entirely within the ADLQ, these projects served a dual purpose: advancing critical science and fostering the professional growth of our researchers.

Focus on high-impact targets: Epitope mapping for future applications:

The M.Res projects focused on epitope mapping - precisely identifying how our in-house nanobodies bind to three biologically significant targets:

Focus on high-impact targets: Epitope mapping for future applications:

The M.Res projects focused on epitope mapping - precisely identifying how our in-house nanobodies bind to three biologically significant targets:

Connective Tissue Growth Factor (CTGF): CTGF plays a pivotal role in tissue remodeling, fibrosis, and inflammation. Aberrant regulation of CTGF has been linked to chronic inflammatory disorders, fibrosis of major organs, and even tumor progression.

Neuropilin-1 (NRP1): NRP1 is a multifunctional receptor involved in angiogenesis, axonal guidance, and tumor growth. It has gained increasing attention as a therapeutic target in oncology and vascular diseases.

Cytochrome P450 17A1 (CYP17A1): CYP17A1, a member of the cytochrome P450 enzyme family, is crucial in steroid biosynthesis and is directly implicated in endocrine disorders and hormone-dependent cancers such as prostate cancer.

Using a combination of experimental laboratory techniques and computational in silico molecular docking approaches, the students were able to identify and characterize the specific epitopes-the regions of the target proteins where nanobodies bind. This dual approach provided robust and complementary insights: while experimental data validated nanobody-antigen interactions, computational docking offered structural models that helped explain the binding specificity and potential mechanisms of action.

The outcomes of this work are multifaceted:

- **Scientific Impact:** We have deepened the fundamental understanding of nanobody-antigen interactions, providing a direct pathway to develop sensitive diagnostic assays for banned substances like rHuEPO.
- **Capacity Building:** The projects exemplify our commitment to staff development through prestigious academic collaborations, enhancing our in-house expertise.
- **Strategic Positioning:** This success establishes ADLQ's capability in this technology, opening new avenues for anti-doping research, including multiplexed tests, and detection of novel biomarkers.

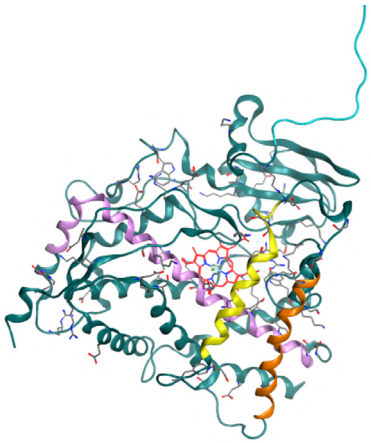
Looking ahead:

This research is not just limited to diagnostics, but has significant therapeutic relevance in clinical science. This dual-purpose nature of our work amplifies its impact, as discoveries can often bridge the gap between human health and athletic integrity. The establishment of our nanobody platform is more than a technical milestone; it is a strategic asset in the global fight for clean sport.

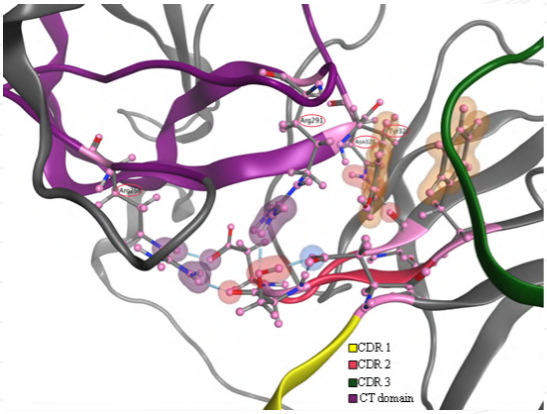
By merging basic research with translational anti-doping applications, the ADLQ Research Department is not just keeping pace with advancements - we are actively creating them. We are excited to leverage this platform for future projects aimed at making doping detection faster, more sensitive, and more robust, thereby upholding fairness and safety in sport worldwide.

Starting September 1, 2025, athletes competing in the female category at world ranking events must undergo a one-time SRY gene test.

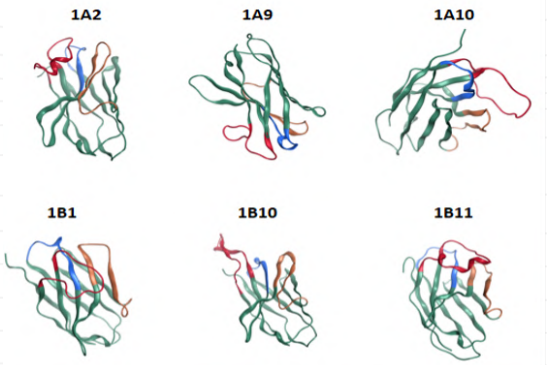
This highly accurate test, which detects the presence or absence of the Y chromosome, is designed to ensure fairness and uphold the integrity of sport. At ADLQ, we are fully equipped to lead this initiative with our molecular genetics expertise, and we will soon begin establishing the procedure.



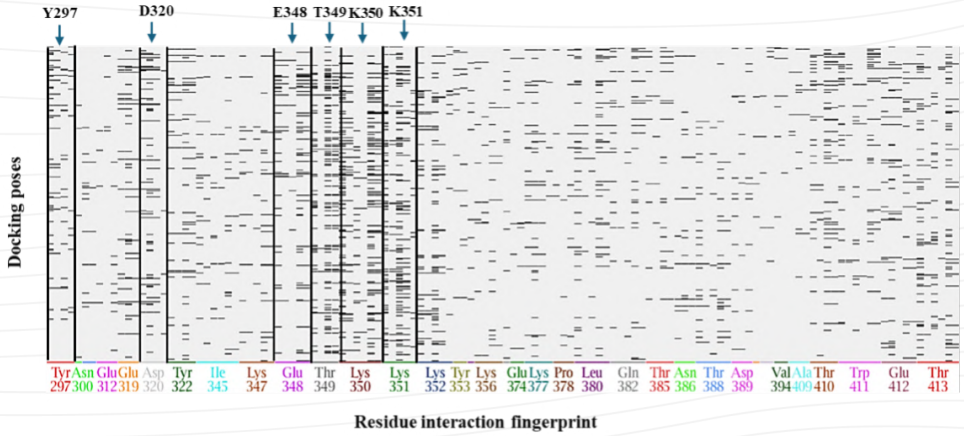
CYP17A1 3RUK structure. Showing F helix in [yellow], G helix in [orange] and I helix in [purple]. The N-terminal region recognized by nanobody families is shown in [cyan] on the protein surface, while the heme cofactor and catalytic site are shown in [red].



Interactions between the CT domain of CTGF and the CDR1 and CDR2 of CTGF 6D1 VHH nanobody after energy minimization



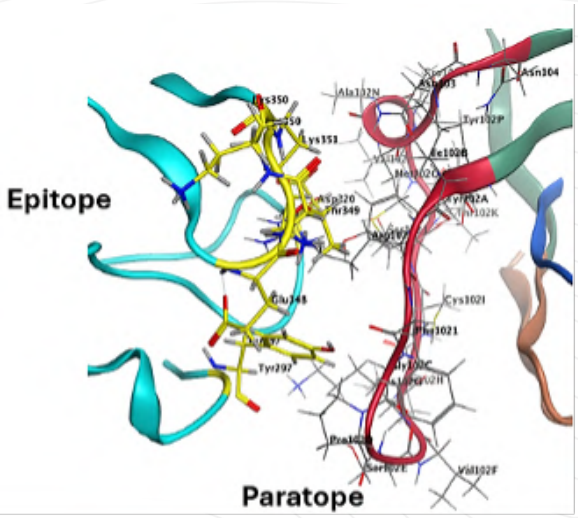
Three-dimensional structures of NRP1 VHH fragment antibody clones predicted by MOE. Six VHH fragment antibody clones were modelled



Protein ligand interaction fingerprint and 3D visualization of the top clustered epitope residues for NRP1 VHH clone 1A10 with the epitope region of fragment 66.

A. The figure demonstrates the protein ligand interaction fingerprints for 1000 docking poses of the VHH clone 1A10 against the epitope region of fragment 66 of NRP1. The residues that exhibited common interactions across multiple poses are marked.

B. The figure shows a docking pose of the top-scoring epitope residues(yellow) with complementary residues from the CDR3 (red) of the VHH clone 1A10 paratope.



Anti-Doping Lab Qatar Honors Staff Achievements at Annual Day Celebration

Celebrating Team Spirit with Awards and Interactive Games

On January 18, Anti-Doping Lab Qatar hosted its Staff Annual Day at The Torch Hotel, bringing the team together to celebrate shared achievements and institutional milestones. The vibrant agenda featured a variety of engaging segments, including interactive team-building games and live voting activities that sparked friendly competition across all departments.

A central pillar of the event was the corporate awards ceremony, a proud moment dedicated to recognizing the outstanding contributions and exceptional performance of our staff. Adding a profound layer of motivation to the festivities, renowned Qatari mountaineer Fahad Badar delivered an inspiring keynote. His powerful story of resilience and overcoming adversity deeply resonated with the audience, setting a positive and unified tone for the year ahead.

ADLQ Commemorates Qatar National Sports Day with Outdoor Staff Wellness

Engaging in Fitness and Sports Activities with Staff

Qatar National Sports Day stands as a testament to the nation's pioneering commitment to building a healthy, active society. Established as a unique public holiday, it reflects the core values of the Qatar National Vision 2030 by emphasizing human development and making sports an integral part of everyday life. Across the country, the day serves as a national call to action, encouraging citizens and residents alike to step away from their routines and invest in their physical and mental well-being.

In proud alignment with this national initiative, the Anti-Doping Lab Qatar community gathered at Aspire Park on February 9 to celebrate the occasion. The event featured a collaborative team walk along the park's scenic trails, alongside a series of fun, sports-related activities that sparked friendly competition and strengthened camaraderie among colleagues. Staff members fully embraced the opportunity to engage in physical fitness in a vibrant outdoor environment. Paired with healthy snacks and refreshments, the successful event underscored ADLQ's enduring dedication to supporting the long-term health of its workforce and echoing Qatar's vision for a healthier future.

Tea with GM: Empowering Voices through Open Dialogue

Bridging the Gap Through Meaningful Conversation

"Tea with GM" is an informal initiative designed to foster a culture of transparency and mutual respect within the organization. By stepping away from the traditional office setting, this platform provides a relaxed space for staff to connect directly with leadership.

The program focuses on strengthening the workplace community by encouraging employees to:
• Share Insights: Communicate innovative ideas and thoughts in a comfortable environment.
• Voice Concerns: Openly discuss feedback and workplace matters with the General Manager.
• Strengthen Connections: Build a more personal and unified bond between leadership and the team.

This initiative ensures that every voice is heard, promoting a more collaborative and engaged professional environment.

Strength in Unity: ADLQ Community Lunch

Fostering Connection and Resilience Following Regional Challenges

During the month of March, the region faced unprecedented security challenges that required the Anti-Doping Lab Qatar (ADLQ) to take immediate and decisive action to protect its team. As the situation escalated, the organization prioritized the safety of its researchers, administrators, and scientists by swiftly transitioning all non-essential on-site staff to a Work-From-Home (WFH) model. Simultaneously, emergency response protocols were activated to secure the physical laboratory and safeguard sensitive biological samples and specialized equipment in accordance with national security advisories.

Once normal operations resumed, the ADLQ family gathered for a staff lunch on Wednesday, April 8, in the ADLQ Cafeteria to reinforce their bonds as one team. This simple gathering provided a vital opportunity for the team to hangout, destress, and find relief in a relaxed environment after the turbulent events of the preceding weeks. By sharing a meal and positive energy, the staff were able to support one another and recharge, reflecting the laboratory's steadfast commitment to both scientific excellence and the well-being of its resilient people.

Anti-Doping Lab Qatar Hosts Spirited Staff Foosball Tournament

Building Team Spirit Through Friendly Competition

On April 12, Anti-Doping Lab Qatar brought high energy to the workplace with a lively staff Foosball Tournament. Designed as a fun and engaging team-building activity, the event featured separate, action-packed brackets for men and women, allowing colleagues from across the laboratory to showcase their quick reflexes and competitive spirit. The enthusiastic cheering and friendly rivalry provided a fantastic opportunity for staff to connect, unwind, and celebrate teamwork outside of their daily routines.

Anti Doping Lab Qatar Participates in #StayTrue

Organized by WADA; To promote integrity in sport and to reinforce the values of fair play in the community.

ADLQ Seminars & Workshops

Thinking Out of the Box Seminar

The Talent Management Department is committed to supporting and developing employees' capabilities and fostering a culture of creativity in the workplace.

In line with this, and to enhance your creative skills and promote the value of innovation at work, The workshop was delivered in cooperation with QU.

Project Management Workshop

A Project Management Manual awareness session was delivered by Mr. Arsalan on 17 February for Department Managers and their shadows, aiming to strengthen understanding of key project management practices and their application across departments.

Psychological Balance During Crises and Fear Seminar

Based on the Talent Management Department's commitment to supporting employees and enhancing their mental health and ability to cope with stress, especially during times of crisis and exceptional circumstances, the department held a workshop entitled "Psychological Balance During Crises and Fear," as part of the department's initiatives aimed at raising awareness of methods for managing anxiety and stress, and enhancing employees' psychological resilience.

ADLQ Seminars & Workshops

Business Continuity in Times of Crisis – A National Responsibility

A seminar titled “Business Continuity in Times of Crisis – A National Responsibility” was delivered to all staff, exploring best practices for crisis management and pre-paredness.

Institutional Excellence Course (Online)

The invitation had been sent to all managers for registration.

This seminar is part of the efforts to support government entities in the post-assessment phase, which is a key stage in translating the feedback report outcomes into actionable improvement opportunities with a real and sustainable impact on institutional performance, while also enhancing readiness for the upcoming award cycles.

One Hour for Earth: Our Commitment to Sustainability

Small actions led to a global impact. In observance of Earth Hour, staff were encouraged to switch off their lights for one hour.

For billions of years, Earth sustained life; giving back just 60 minutes was a vital step in showing a commitment to a sustainable and greener future. The team joined the movement by turning off the lights to shine a light on climate action.

World Creativity and Innovation Day

Innovation served as the cornerstone of the work at Anti-Doping Lab Qatar. The organization celebrated World Creativity and Innovation Day by reaffirming a commitment to creative problem-solving and the pursuit of cutting-edge science.

By fostering an environment where new ideas thrived, the laboratory continued to develop smarter detection methods and upheld the highest standards of integrity in sport.

ADLQ Upcoming Events

Café Scientifique

Date: 17th June 2026

ADLQ invites you to an engaging session of Café Scientifique titled "AI in Anti-Doping: Smarter Detection or a Threat to Fair Play?" This discussion will explore the transformative role of artificial intelligence in our field, debating whether it serves as a powerful tool for precision or poses new challenges to the traditional values of sport.

ADLQ Symposium

Date: 26th - 28th November 2026

Looking ahead to the end of the year, the ADLQ Symposium will serve as our premier gathering for scientific excellence. This event will bring together global experts to discuss cutting-edge research and the future of anti-doping technology. It is a key opportunity for the laboratory to showcase its commitment to innovation and leadership within the international scientific community.

Prof Alka Beotra Qualifies as Independent Director

Nationally Recognized Certification by the Indian Institute of Corporate Affairs

Prof. Alka Beotra a Member of the Board of Trustees (BOT) at Anti-Doping Lab Qatar, has successfully qualified as Independent Director by the Indian Institute of Corporate Affairs (IICA) under the Ministry of Corporate Affairs, Government of India.

This nationally recognized certification validates her expertise in corporate governance, compliance, enterprise risk management, ethics, and board-level oversight.

Her achievement reflects an enduring commitment to institutional excellence and professional leadership.

Celebrating Academic Excellence: ADLQ Scientist Honored at National Education Awards

AlAnoud Al-Kaabi Secures the Prestigious Platinum Award in Master's Category

Anti-Doping Lab Qatar proudly congratulates Lab Scientist AlAnoud Al-Kaabi on winning the prestigious Academic Excellence Platinum Award in the Master's category at the 19th Edition of the Qatar Education Excellence Awards. This remarkable recognition highlights her exceptional dedication to academic rigor, scientific advancement, and personal growth, reflecting the high caliber of professionals within our laboratories.

Her achievement stands as an inspiration to the entire team and reinforces ADLQ's ongoing commitment to supporting the continuous educational and professional development of its staff.

Advancing Cybersecurity Readiness: ADLQ Participates in 12th National Cyber Drill

IT Department participated in National Cyber Security Drill 2025

The IT Department of ADLQ has actively participated in the 12th National Cyber Drill 2025, an initiative organized by the National Cyber Security Agency (NCSA) to strengthen national readiness against evolving cyber threats.

The national drill, themed “Cross-Border Attacks,” brought together government entities and organizations across the State of Qatar to assess cyber incident response capabilities, enhance coordination, and promote compliance with national cyber security frameworks.

As part of the exercise, the IT Department took part in multiple preparatory and operational phases, including pre-drill workshops, technical coordination, and the main cyber simulation activities.

ADLQ Receives Recognition from Civil Service and Government Development Bureau

IT Department participated in National Cyber Security Drill 2025

ديـــوان الخدمـــة المدنيـــة والتطويـــر الحكومـــي
Civil Service and Government Development Bureau
State of Qatar • دولـــة قطـــر

الرقم : د.خ.م/إ.ت.ح/657

التاريخ: 1447/09/06هـ
الموافق:2026/02/23م

السيد/ مدير إدارة الموارد البشرية المحترم
مختبر مكافحة المنشطات
الدوحة .

السلام عليكم ورحمة الله وبركاته ،،،

الموضوع : شكر و تقدير

تهديكم إدارة الترشيح والإحلال بديوان الخدمة المدنية والتطوير الحكومي أطيب التحيات، ويسرنا أن نعرب لكم ولفريق عملكم بإدارتكم الموقرة عن بالغ شكرنا وتقديرنا للجهود المخلصة التي بذلتموها خلال سنة 2025 في استقطاب وتوظيف الكوادر القطرية عبر المنصة الموحدة للتوظيف والتطوير المهني "كوادر."

لقد كان لتعاونكم المستمر مع فريق العمل بالإدارة دور كبير في تعزيز فرص العمل للكوادر الوطنية والمساهمة في تحقيق الأهداف المشتركة، إننا نثمن جهودكم وهذا التنسيق المثمر، ونتطلع إلى استمرار هذا التعاون البنّاء بما يسهم في تحقيق المزيد من الإنجازات.

سائلين المولى عزّ وجلّ لكم دوام التقدم والتوفيق.

وتفضلوا بقبول فائق الاحترام والتقدير،،،

The Anti-Doping Lab Qatar (ADLQ) has been formally recognized by the Civil Service and Government Development Bureau for its exceptional contributions to national workforce development.

In a formal letter, the Nomination and Replacement Department expressed its profound appreciation for the efforts of ADLQ and its Human Resources team during 2025. The recognition highlights the lab's commitment to recruiting Qatari talent through the "Kawader" portal.

ADLQ is deeply grateful for this recognition and remains committed to supporting the state's vision. The lab looks forward to continuing to empower local human capital and ensure sustainable national achievement.

Farewell to A Beloved Member of the ADLQ Family

Nayla Hilal Obaid | Section Head – IRMS 11 April 2010 – 31 March 2026
Over 16 years of dedicated service, Nayla played a vital role in shaping the scientific foundation of ADLQ.
Her commitment, expertise, and warmth left a lasting mark on everyone who had the privilege of working with her. We wish her every success in the chapter ahead.

Staff Innovations: Shaping the Future of Anti-Doping Lab Qatar

Share Your Ideas and Suggestions to Drive Organizational Excellence

We believe our greatest asset is the expertise and innovations of our team. To better reflect the high caliber of strategic thinking across our departments, we have this space we title Staff Innovations.

This is your dedicated platform to share forward-thinking ideas, process improvements, and creative suggestions. Whether it is a small operational tweak or a major strategic initiative, your voice matters. Submit your concepts to be reviewed, considered, and potentially brought to life as we work together to advance our institutional goals.

Ready to share your idea? Scan the QR code above to submit your innovation.