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PROVA ORALE N° 1

Caratteristiche di un laboratorio di virologia: spazi e apparecchiature caratterizzanti

So far, the real-time reverse transcriptase polymerase chain reaction (RT-qPCR) is the assay of choice for COVID-19 diagnosis considering its rapidity and accuracy in informing on active coronavirus (CoV) infection

Cos'è la PEC?

PROVA ORALE N° 2

Differenze tra sequenziamento di tipo Sanger e NGS

Presently, several RT-qPCR protocols with differing sensitivity/specificity are used for performing this assay; some of them are known to have generated debatable test results to constitute challenges worthy of consideration.

Cos'è la firma digitale?

PROVA ORALE N° 3

Caratteristiche di un laboratorio di biologia molecolare: gestione degli spazi in un laboratorio in cui si conducono analisi PCR

Knowledge of diagnostic tests for COVID-19 is still evolving and, as a prospect, underscores the need for local validation of positive-negative Ct cut-off values when establishing RT-qPCR assays for SARS-CoV-2 detection.

Cos'è un database?

PROVA ORALE N° 4

Inibitori della reazione PCR. Da dove provengono e come verificarne la presenza

Following the outbreak of a severe acute respiratory disease caused by a newly emerged virus among humans in Wuhan city, in December, 2019, the causal agent was initially called 2019-novel coronavirus (2019-nCoV) while the associated respiratory illness was officially designated Coronavirus Disease 2019 (COVID-19).

Quali sono i requisiti di una password per essere considerata sicura?

PROVA ORALE N° 5

Metodi diretti e indiretti per il rilevamento virale

However, with the availability of the complete genome sequence of this virus, the Coronavirus Study Group (CSG) of the International Committee on Taxonomy of Viruses renamed it severe acute respiratory syndromecoronavirus type 2 (SARS-CoV-2) based on comparative analysis with the 2002 SARS-CoV [1].

Cos'è una pendrive?

PROVA ORALE N° 6

Diagnostica mediante ibridazione di acidi nucleici (microarray)

The virus is a positive-sense, single-stranded RNA virus in the genus Betacoronavirus, family Coronaviridae. As of 3 June, 2020, the number of laboratory-confirmed cases of COVID-19 reported worldwide was 6,432,370 with 385,991 deaths [2].

Che cosa indica "gigabyte"?

PROVA ORALE N° 7

Principi di estrazione automatizzata degli acidi nucleici

The diagnostic test is strategic to interrupting transmission of SARS-CoV-2 as it identifies infected persons for appropriate clinical management in isolation facilities, contact-tracing and guides provision of real-time epidemiologic/surveillance information to the public for infection prevention and control (IPC) purposes.

Che cosa vuol dire "fare il backup"?

PROVA ORALE N° 8

Retro Trascrizione. Descrizione, uso

There are two major approaches to diagnosis of COVID-19: (1) laboratory tests that detect the SARS-CoV-2 (or its RNA or protein) in clinical samples of infected persons, including nasal/nasopharyngeal swabs, sputum, bronchoalveolar lavage fluid, faeces, and saliva; (2) laboratory tests that detect evidence of host immune response to the virus [4].

Cos'è internet?

PROVA ORALE N° 9

Ricircolo e filtraggio dell'aria in un laboratorio ad alto contenimento. Caratteristiche e BSL coinvolti.

The real-time reverse transcriptase-polymerase chain reaction (RT-qPCR) is the molecular-based assay used globally to detect SARS-CoV-2 RNA in clinical samples of patients manifesting COVID-19 compatible signs and symptoms (fever, fatigue, chills, dry cough, sneezing, dyspnea, myalgia, lymphopenia and radiographic findings of pneumonia).

Quali sono le combinazioni rapida da tastiera per i comandi "copia", "incolla", "taglia"?

PROVA ORALE N° 10

Sanger. Basi della tecnica e come si conduce un sequenziamento

This assay has the capacity to detect and measure minute amounts of nucleic acids in different sample types from various sources (environmental or clinical). It has been described as the enabling technology par excellence for molecular diagnostics covering life sciences, agriculture and medicine [6].

Che cosa si può intendere per "testo digitale"?

PROVA ORALE N° 11

Utilizzo di cappe filtranti nei laboratori ad alto contenimento. Descrizione delle diverse classi e relazione con i diversi BSL.

The RT-qPCR is highly sensitive and specific (though not 100% for each), rapid and widely used for pathogen detection [6]. These attributes make it perhaps the best diagnostic test available for rapid detection of lethal pathogens with pandemic potential, such as SARS-CoV-2, in clinical samples.

Cos'è l'hardware di un pc?

PROVA ORALE N° 12

Principi di quantificazione assoluta mediante real-time PCR

Several modifications of this assay have been developed by different laboratories for testing COVID-19 samples (Table 1) [7], with the World Health Organization (WHO) approving some of them for use in laboratory testing of samples in the ongoing pandemic.

Cosa sono le F.A.Q. di un sito?

PROVA ORALE N° 13

Rapporti tra laboratori ad alto contenimento ed ambiente esterno. Presenza di aree dedicate, sistemi di trattamento del materiale in entrata/uscita dai laboratori e dei reflui.

There have been several published reports of laboratory-confirmed COVID-19 cases across the globe based on the RT-qPCR technology. However, it was observed that they also reported different indicators of positive test results.

Cos' è lo Spamming?

PROVA ORALE N° 14

Principali passaggi di un saggio Western blotting

These controversies, together with the earlier observation that several published studies reported the use of diverse reagents, protocols and analysis methods for qPCR assay [6], create doubts about the accuracy/reliability of the RT-qPCR for diagnosis of COVID-19.

Dai una definizione di "slash"

PROVA ORALE N° 15

Principi della tecnica PCR RFLP: principi ed esempi applicativi

In this commentary, we reviewed published works on use of the RT-qPCR for diagnosis of COVID-19 in infected individuals and examined the possibility of standardization of the assay procedure to facilitate generation of globally comparable results.

Cos'è una connessione wireless?

PROVA ORALE N° 16

Metodi di rilevazione diretta di virus citopatico

The varying Ct values reported in some of the relevant published works were critically appraised and discussed vis-à-vis challenges and prospects. Reports of varying indicators of positive/ negative RT-qPCR test results for COVID-19 diagnosis:

Cosa si intende per operazione di Output?

PROVA ORALE N° 17

Metodi di rilevazione diretta di virus non citopatico

In performing the RT-qPCR, the indicator of detectable amplification of the viral RNA is graphically known as quantitation cycle [6], commonly reported as cycle threshold value (Ct) [5]. The Ct for a given clinical sample represents the amplification cycle that crosses the threshold line programmed by individual scientists using the assay in a specific brand of real-time thermal cycler.

A cosa serve il programma Word?

PROVA ORALE N° 18

Gestione delle apparecchiature in un laboratorio di biologia molecolare: Quali sono le apparecchiature caratterizzanti per una analisi PCR RealTime? A quale tipo di gestione le sottoporresti in termini di manutenzione/taratura?

It was reported that Ct values of 25 to 28 were usually appropriate; when more than 28 cycles, detection of non-specifically precipitated sequences could occur or lead to variable results due to inactivation of Taq polymerase.

Che cos' è Powerpoint?

PROVA ORALE N° 19

Gestione delle contaminazioni in un laboratorio PCR

A clinical sample being assayed must not only show amplification signal/cycle crossing the threshold line within cycles set for positivity, it must also have relatively low Ct value/number (Ct value being inversely related to copy numbers of template RNA/DNA in a given sample) to be considered positive compared to appropriate RTqPCR controls.

A cosa serve Outlook?

PROVA ORALE N° 20

Fasi del processo di NGS

For the diagnosis of COVID-19, different Ct values have been used, ranging between 16.9 and 38.8 for various clinical samples. Although, Ct values < 40 is generally recommended as indicator of SARS-CoV-2 RNA positivity [7], some workers reported that samples with Ct values > 33.33 or 35, or ≥ 39.2 or 40 could be considered as negative [7].

Come è possibile visualizzare le proprietà di una cartella?

PROVA ORALE N° 21

Elettroforesi delle proteine

Similarly, a verification study of commercial RT-qPCR tests of residual patient samples reported that strong positive samples typically have Ct values ranging from 15-24, and values of 25-30 for moderately positive samples. These differences in Ct cut-off values could be due to the types of clinical samples, sampling time and protocols employed by the various groups of workers.

In Excel è possibile sommare due numeri? Se sì come?

PROVA ORALE N° 22

Gestione dei Controlli previsti nel metodo real-time PCR

From the instances cited above, it implies that some clinical samples might be considered negative with Ct values set below 30, 33.33, 35 or 37 whereas such would be considered positive using cut-off values ≥ 40 for negative samples as recommended by the CDC.

E' possibile cambiare le impostazioni dello schermo?

PROVA ORALE N° 23

Classi di rischio degli agenti biologici: rischio individuale e rischio collettivo

The American Society for Microbiology also opined that if the limit of detection (LOD) of a given RT-qPCR kit is too high, SARS-CoV-2-infected patients might not test positive, whereas if the LOD is too low, contamination can become a major problem, as the kit would detect the tiniest amounts of viral RNA, leading to false-positive test results

In Explorer cosa indica la Cronologia?

PROVA ORALE N° 24

Colture cellulari: colture primarie e linee cellulari

It is important to state that the various RT-qPCR protocols use different primer-probe sets targeting diverse segments of the SARS-CoV-2 genome [7,9]. These protocols may not have similar analytical or clinical sensitivity and specificity even when used for the same COVID-19 clinical sample

Come fai ad aprire/chiedere/ridurre ad icona una finestra sul pc?

PROVA ORALE N° 25

Espressione di proteine eterologhe in E. coli

It is also noteworthy that different RT-qPCR kits for SARS-CoV-2 detection have different reagents, and when the same, their concentrations in the reaction mixture may be different as seen with the assays/protocols developed by the US CDC, China CDC, Charité-Universitätsmedizin Berlin, Germany and Hong Kong University [5,9,10].

Che differenza c'è tra internet e intranet?

PROVA ORALE N° 26

Come si costruisce una retta di calibrazione per una quantificazione di PCR RealTime?

As observed by Vogels et al. [7] who critically compared the analytical efficiencies and sensitivities of these four RT-qPCR assays, each of them is likely to have different sensitivity/specificity, and possibly different accuracies. They concluded that all the primer-probe sets for these four assays can be used to detect SARSCoV-2 as long as the limitations of each assay are recognized.

Che cosa indica il "gigabyte"?

PROVA ORALE N° 27

Confronto tra conventional PCR e real-time PCR in termini di vantaggi

However, they noted that the different assays have clear variations in their abilities to differentiate between true negatives and positives when low titer of SARS-CoV-2 is present in a given sample. This becomes crucial when samples from asymptomatic COVID-19 suspects are tested, in which case, the CoV RNA may be quite low to indicate early viral replication.

Cos'è un account di posta elettronica e quali informazioni sono richieste per l'accesso?

PROVA ORALE N° 28

Conservazione a lungo termine delle colture cellulari

Although the RT-qPCR detection of SARS-CoV-2 RNA does not necessarily mean viable virus is present in the samples, appropriate interpretation of the diagnostic test results is guided by the clinical manifestations and epidemiologic history of the patient.

A cosa serve il simbolo @?

PROVA ORALE N° 29

Tecniche di identificazione batterica nella diagnostica microbiologica

Conversely, two consecutive negative test results indicate that the individual has no detectable SARS-CoV-2 RNA as at the time of sampling and is considered not infected or infectious. However, when history of the patient points to probable exposure to the CoV, self-isolation for a period of 14 days is recommended for manifestation of pertinent signs and symptoms, otherwise, the patient is discharged as uninfected [8].

In Word cosa si deve fare per poter copiare e incollare un testo?

PROVA ORALE N° 30

Tecniche di isolamento batterico e tipologie di terreni per la crescita dei microrganismi

It has however been suggested that negative results do not exclude SARS-CoV-2 infection [3]. Any positive/infected person in isolation facility undergoing clinical management can only be discharged as having recovered from COVID-19 when RT-qPCR returns negative results twice from two or more clinical samples collected, at least, 24 hours apart [4,8].

Cos'è la homepage?

PROVA ORALE N° 31

Tecniche di quantificazione virale

This further highlights the importance of the assay. With respect to sample types, we observed in this review that different clinical samples displayed different sensitivities for SARSCoV-2 detection. For instance, samples from the lower respiratory tract of COVID-19 patients showed greater sensitivity.

Come si allega un documento ad una mail?

PROVA ORALE N° 32

Caratteristiche dei primer utilizzati in una reazione di PCR

It is generally believed that good sample collection is a prerequisite for accurate laboratory diagnosis, but scientists are not yet sure what “good specimen collection” means for COVID-19. Although the US CDC recommends nasopharyngeal swabs for COVID-19 diagnosis, the issue of sampling is still evolving.

Che tipo di formato è MP3?

PROVA ORALE N° 33

Caratteristiche di PCR, PCR Real Time e PCR nested in termini di sensibilità e specificità

Considering the pathogenicity of SARS-CoV-2 and the sensitive nature of the current pandemic, and in order to ensure assay reliability, the China and US CDCs designed different protocols for their respective RT-qPCR kit. For the US CDC, detection of SARSCoV-2 RNA requires four RT-qPCRs for each COVID-19 clinical sample.

A cosa servono i pixel?

PROVA ORALE N° 34

Caratteristiche di un laboratorio di batteriologia specializzata: spazi e apparecchiature caratterizzanti

However, many centers and referral laboratories, guided by the US CDC, require three RT-qPCRs (that detect N1, N2 and RNase P genes) per sample. Nevertheless, diagnostic laboratories all over the world are caught between which of the existing RT-qPCR assays to adopt [7].

Cosa vuol dire e come si procede per effettuare uno screenshot?

PROVA ORALE N° 35

Organizzazione di un laboratorio di colture cellulari: apparecchiature caratterizzanti

These can be overcome by ensuring that sampling and sample transport are done by trained healthcare workers, assays are conducted by personnel with demonstrable expertise and experience in RT-qPCR, and inclusion of RNase inhibitor in the assay.

In Windows dove si trova la Barra delle applicazioni e a cosa serve?

PROVA ORALE N° 36

Sybr Green real-time PCR: principi e limiti rispetto ad un saggio TaqMan

As an RNA virus with high propensity for mutational changes in the genome, evolution of SARS-CoV-2 with the emergence of strains having diverse replication efficiencies and clinicopathological manifestations over the course of the pandemic, could be another reason accounting for differences in analytical sensitivity of available RT-qPCR assays and consequently, the divergent test results obtained.

La Barra delle applicazioni può essere personalizzata?

PROVA ORALE N° 37

Principi delle tecniche PCR nested e semi-nested

So far, different strains of the virus have been identified. Although at the moment, several RT-qPCR assays for COVID-19 diagnosis are available, none is perfect yet. It is advocated that positive-negative Ct cut-off values should be locally validated when establishing RT-qPCR assays for SARS-CoV-2 detection [7].

Da quali elementi è composto un indirizzo di posta elettronica?

PROVA ORALE N° 38

Tecniche di tipizzazione batterica: MLST (Multi Locus Sequence Typing)

Leishmaniasis is a vector-borne disease caused by many Leishmania species, which can infect both humans and other mammals. Leishmaniasis is a complex disease, with heterogeneous clinical manifestations ranging from asymptomatic infections to lesions at cutaneous sites (cutaneous leishmaniasis), mucosal sites (mucocutaneous leishmaniasis) or in visceral organs (visceral leishmaniasis), depending on the species and host characteristics.

Esempio di dispositivo di Input di un pc

PROVA ORALE N° 39

Tecniche di tipizzazione batterica: MLVA (Multiple Locus Variable-number Tandem Repeat Analysis)

Often, symptoms are inconclusive and leishmaniasis can be confused with other co-endemic diseases. A correct diagnosis is crucial to apply the appropriate treatment and the use of molecular techniques in diagnosis of leishmaniasis has become increasingly relevant due to their remarkable sensitivity, specificity and possible application to a variety of clinical samples.

Esempio di dispositivo di Output di un pc

PROVA ORALE N° 40

Tecniche di tipizzazione batterica: PFGE (Pulsed Field Gel Electrophoresis)

Among them, real-time PCR (qPCR)-based approaches have become increasingly popular in the last years not only for detection and quantification of Leishmania species but also for species identification. However, despite qPCR-based methods having proven to be very effective in the diagnosis of leishmaniasis, a standardized method does not exist.

Cosa significa formattare un pc?

PROVA ORALE N° 41

Cosa è la temperatura di Melting, principio e applicazioni

Leishmaniasis is caused by protozoan parasites of the genus Leishmania. This genus includes three subgenera: Leishmania, Viannia and Sauroleishmania. Each subgenus presents different complexes and each complex includes several species [1].

I file che si trovano nel "Cestino" possono essere recuperati? Se si, come?

PROVA ORALE N° 42

Elettroforesi capillare

Depending on the Leishmania species and host characteristics, the infection can be asymptomatic or it can lead to a spectrum of diseases, notably cutaneous leishmaniasis (CL), visceral leishmaniasis (VL) or mucocutaneous leishmaniasis (MCL). Infections are widespread both in the Americas (New World) and in Europe, Africa, Asia (Old World), therefore constituting an important global health problem.

In un browser cosa sono i preferiti?

PROVA ORALE N° 43

Elettroforesi degli acidi nucleici in gel d'agarosio

The diagnosis of leishmaniasis relies on clinical manifestations, epidemiological and laboratory data. Concerning the laboratory methods, a gold-standard for human patients or animals is lacking [3], impairing accurate epidemiological data collection and thus limiting the disease control. Moreover, false-negative results could delay treatment, thus contributing to reservoirs maintenance.

Che cos' è Google Chrome?

PROVA ORALE N° 44

Gestione dei Controlli previsti nel metodo di PCR conventional

The use of molecular techniques has become increasingly relevant due to their high sensitivity, specificity and possible application to a variety of clinical samples. Among them, the real-time PCR has become increasingly popular recently since it is fast, has broad dynamic range, and cross-contamination is drastically reduced because there is no need to open reaction tubes for post-PCR analyses

Che cos' è un antivirus?

PROVA ORALE N° 45

Criteri per la classificazione degli agenti biologici in classi di rischio.

The qPCR relies on analysis of fluorescent signal produced during amplification. The assays based on intercalating dyes are characterized by high sensitivity, as long as primers are highly specific to the target sequence to avoid generation of non-specific products that would lead to overestimated or false positive results.

In cosa consiste l'operazione di download?

PROVA ORALE N° 46

Descrivere le principali fasi per l'esecuzione di una real time PCR a partire da una sospensione di virus a RNA e da sospensione di batteri Gram positivi.

A melting curve analysis can be performed post-PCR to ensure the presence of a single specific amplicon. For genotyping purposes, high resolution melt (HRM) analysis can be used to differentiate amplicons based on sequence variations [5]. However, using probes allows multiplexing (partially reducing the cost per assay) and furnish additional specificity to the assay.

In un programma di elaborazione testi, cosa si intende per "testo giustificato"?

PROVA ORALE N° 47

Principi di coltivazione di colture cellulari aderenti ed in sospensione

Therefore, this approach is less subject to false positives than the intercalating dye method. A search in PubMed in February 2018 with the wildcard term "Leishmania*" in conjunction with the search terms "real-time PCR or qPCR", found over 540 published manuscripts from 2001 to February 2018. A further combination with the terms "quantif*" or "detect*" or "diagnos*" identified nearly 180 manuscripts focusing on the topic of this review.

Nella posta elettronica a cosa corrispondono i campi Cc e CCN?

PROVA ORALE N° 48

Real-time PCR multiplex: limiti e accorgimenti della messa a punto

The pioneering works of Bretagne et al. [6] and Nicolas et al. [7] described two qPCR-based methods to detect and quantify Leishmania parasites. Since then, a variety of qPCR-based assays have been developed on different molecular targets, not only for detection and quantification of Leishmania species but also for genotyping and species identification.

Cos' è una penna USB?

PROVA ORALE N° 49

Sequenziamento Sanger: lettura dell'elettroferogramma

Regarding the detection chemistry, SYBR Green and TaqMan® probes were most widely employed, followed by other probes, such as FRET probes [8, 9] or MGB probes [10]. The sensitivity and specificity reported for published qPCR assays is variable. In this review, recent developments and applications of qPCR-based methods in the diagnosis of leishmaniasis are summarized, highlighting advances and limits of this powerful technique.

A cosa serve il modem?

PROVA ORALE N° 50

Pratiche di biosicurezza che coinvolgono gli operatori nei laboratori di diverso livello di sicurezza, da BSL1 a BSL4. DPI, accessi e spazi.

Many qPCR-based approaches for the diagnosis of leishmaniasis have been published based on coding and/or non-coding regions in the Leishmania genome. Leishmania spp. have 34-36 chromosomes and a unique genomic organization in which protein-coding genes are organized in polycistronic units and do not have introns.

Cos'è un notebook?

PROVA ORALE N° 51

Metodi di rilevazione di un prodotto di PCR/PCR RealTime

Leishmania parasites also possess a mitochondrial genome called kinetoplast DNA, which is organized in thousands of minicircles (0.8-1.0 Kb each) and several dozens of maxicircles (approximately 23 Kb each). The kDNA minicircles account for approximately 95% of kDNA and encode small guide RNAs (gRNAs), needed for RNA-editing of the transcripts encoded by maxicircles [12].

Principali dispositivi di memorizzazione dei dati di un pc

PROVA ORALE N° 52

TaqMan real-time PCR applicata alla diagnostica batteriologica: vantaggi e svantaggi rispetto ai metodi di microbiologia classica

Since minicircles are present in thousands of copies per cell, they are ideal targets for highly sensitive detection of Leishmania [13, 14]. Each minicircle is composed of a conserved region containing the origin of replication, and a variable region encoding usually a single gRNA [15].

Cos'è il desktop?

PROVA ORALE N° 53

Tipologie di sonde per PCR Real Time

The minicircle conserved region contains 3 conserved sequence blocks (CSB-1, CSB-2 and CSB-3) that could be effective targets for PCR amplification of all minicircle classes. However, polymorphisms have been shown in CSB-1 region of *L. infantum*.

Quali sono i programmi inclusi nel pacchetto "Microsoft Office"?

PROVA ORALE N° 54

Come si allestisce una coltura cellulare a partire da una biopsia

Real-time PCR applications for Leishmania species detection/quantification and typing represent an advance to classic methodologies in terms of automation and high throughput possibility, rapidity and high sensitivity. Nevertheless, a standardized assay to simultaneously estimate parasite load and genotype the species of interest in a particular geographical area is still lacking

A cosa serve il GPS?

PROVA ORALE N° 55

Gestione dei reagenti in un laboratorio di biologia molecolare

The application of qPCR to the diagnosis of leishmaniasis has contributed to the development of sensitive and specific approaches which are important part of the diagnostic process and allow implementation of early and adequate treatment (103, 104).

Che cosa si intende per SPID?

PROVA ORALE N° 56

Gestione della sterilità in un laboratorio di colture cellulari

The 18S rDNA region, due to its highly conserved nature, is commonly utilized to design primers and/or probes for the diagnosis of Leishmania spp. [26]. On the other hand, the ITS regions, which have more variable sequences, can be used for typing at the species level [24, 27, 28].

Che cosa si intende per sicurezza informatica?

PROVA ORALE N° 57

Metodi per l'identificazione virale su base morfologica

In fact, a detection limit of 5×10^{-4} parasites per PCR reaction tube, with a dynamic range of 107, has been reported for *L. infantum*, allowing to detect up to 0.0125 parasites/ml of blood [18]. In general, the sensitivity limit depends on assay design, chemistry used, the nature of clinical sample and the DNA extraction method.

Cosa si intende per scansione di un documento?

PROVA ORALE N° 58

Metodo di clonaggio classico

For instance, Gomes et al. [22] compared the sensitivity of two qPCR assays (based on SYBR Green or TaqMan® probe) targeting Leishmania (Viannia) kDNA using swabs and biopsy samples. The authors showed that sensitivity did not vary significantly by sample type, but rather according to the method: the SYBR green-based assay reached the higher level of sensitivity.

Cosa è un font?

PROVA ORALE N° 59

In quali fasi si articolano le reazioni di PCR ed RT-PCR

Despite considerable progress made in recent years, real-time PCR is still far from the clinical routine application in endemic areas. The cost of equipment and reagents is an important factor that hinders the transition from research to routine clinical application in endemic areas.

Che cosa è un motore di ricerca?

PROVA ORALE N° 60

Esempi di agenti patogeni manipolati in un laboratorio BSL3

Emergence of resistance among the most important bacterial pathogens is recognized as a major public health threat affecting humans worldwide. Multidrug-resistant organisms have emerged not only in the hospital environment but are now often identified in community settings, suggesting that reservoirs of antibiotic-resistant bacteria are present outside the hospital.

Cosa si intende per LOGIN?

PROVA ORALE N° 61

Metodi di identificazione batterica su base fenotipica e molecolare

From an evolutionary perspective, bacteria use two major genetic strategies to adapt to the antibiotic “attack” , i) mutations in gene(s) often associated with the mechanism of action of the compound, and ii) acquisition of foreign DNA coding for resistance determinants through horizontal gene transfer (HGT).

Come si procede per cambiare il nome di un file?

PROVA ORALE N° 62

Quali sono le apparecchiature necessarie per il mantenimento di colture cellulari e a quale tipo di gestione sono sottoposte?

In this scenario, a subset of bacterial cells derived from a susceptible population develop mutations in genes that affect the activity of the drug, resulting in preserved cell survival in the presence of the antimicrobial molecule. Once a resistant mutant emerges, the antibiotic eliminates the susceptible population and the resistant bacteria predominate.

Differenze tra file e cartella

PROVA ORALE N° 63

Quantificazione di un virus all'interno di una matrice

Not surprisingly, bacteria have evolved sophisticated mechanisms of drug resistance to avoid killing by antimicrobial molecules, a process that has likely occurred over millions of years of evolution.

Emergence of resistance in the hospital environment often involves conjugation, a very efficient method of gene transfer that involves cell-to-cell contact.

A cosa serve il toner?