

## PROVA NUMERO 1

Cos'è la Cromatografia di affinità e come funziona?

Quali sono gli elementi principali di cui tener conto nella messa a punto di un test ELISA?

Quali sono i Valori Fondamentali dell'Università?

Come inserire un indice in un file Word?

The four IgG subclasses are named in a descending order of amount: IgG1 is the most prevalent subclass, up to 60–70% of the total IgG, followed by IgG2 (20–30%), IgG3 (5–8%), and IgG4 that is the least frequent subclass (only 5%) (Schur 1987). Although IgG subclasses share more than 90% homology in the amino acid sequence, each of them has a specific profile with respect to antigen binding, immune complex formation, complement activation, effector cell triggering, half-life, and placental transport.

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REVIEW

### Immunological Role of IgG Subclasses

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## PROVA NUMERO 2

Cos'è la Surface Plasmon Resonance e come funziona?

Quali sono i più comuni agenti di saturazione in un test ELISA o in Western Blotting?

Quali sono le Attività Istituzionali dell'Università?

Come creare una presentazione animata con Powerpoint?

All subclasses spread into the extravascular space through escape into the vascular system. Different methods and assays (by employment of polyclonal or monoclonal antibodies) have been developed for detection of Ig subclasses, such as radial immunodiffusion, radioimmunoassay, particle concentration fluorescence immunoassay, nephelometry, but the major problem is that their determination is "method"-dependent. Currently, turbidimetry and nephelometry are the most widely used methods for measuring IgG subclasses (Ludwing-Kraus et al. 2017).

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### PROVA NUMERO 3

Cos'è la 2D-PAGE e quali possibilità di analisi fornisce?

Quali sono i principali metodi di fissazione delle cellule in un protocollo di immunofluorescenza?

Quali sono le funzioni del Rettore, come viene eletto il Rettore e quanto resta in carica?

Che tipo di programmi sono Zotero, EndNote, Mendeley e per cosa possono essere utilizzati?

A significant reduction in serum IgG1 (and IgG3) levels has been also found in women with pregnancy-induced hypertension (pre-eclampsia) (Sarween et al. 2018). Considering the implication of immune mechanisms in the pathogenesis of pregnancy-induced hypertension, Sarween et al. evaluated markers of humoral immunity and their relationship with circulating markers of inflammation, angiogenic factors, and renal function. They observed changes in free light chains and IgG1 concentrations at the time of pregnancy-induced hypertension and appeared to be independent from other markers (Sarween et al. 2018).

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## PROVA NUMERO 4

Qual è la differenza tra FPLC e HPLC?

Quali sono i passaggi principali di un protocollo di immunofluorescenza su cellule?

Quali sono le funzioni principali del Senato Accademico, da chi è composto e quanto dura il mandato?

In cosa consiste in Excel la formattazione di una cella e come si può effettuare?

Hashimoto's thyroiditis represents the most frequent organ-specific autoimmune disease, and the anti-thyroid peroxidase antibody (TPOAb) is its serologic hallmark. Levels of TPOAb found in the sera of Hashimoto patients are principally IgG, and IgG2 is the most represented subclass. IgG subclass distribution of TPOAb is different based on the thyroid functional status (Xie et al. 2008). It has been shown that T helper (Th) lymphocytes infiltrating the thyroid gland are mainly Th1 cells in Hashimoto's thyroiditis, while interferon gamma, a major Th1 cytokine, is able to induce IgG2 expression and cause IgG2 increase in the serum.

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## PROVA NUMERO 5

Cos'è uno spettrofotometro?

Quali sono i principali passaggi di un protocollo di microscopia elettronica?

Quali sono le funzioni principali del Consiglio di Amministrazione, da chi è composto e quanto dura il mandato?

In Excel, quale è la sintassi corretta per calcolare la media delle celle B1, B2, B3, B4?

Therefore, decreasing levels of IgG3 appear to be reliable predictors for disease worsening. Low temperature and IgG3 seem to trigger a reversible cryoprecipitation, possibly by inducing steric modifications of Ig molecules. The presence of IgG3 in cryoprecipitates of HCV and antinuclear antibody-positive patients is likely the main factor activating autoimmune mechanism in the long term (Gulli et al. 2016). Basile et al. assessed IgG3 in cryoprecipitates of HCV-positive individuals to look for a potential relationship with mixed cryoglobulinemia, which represents the main extrahepatic manifestation of HCV infection.

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## PROVA NUMERO 6

Quali sono le differenze tra un TEM ed un SEM?

Quali sono i passaggi principali di un protocollo di Western Blotting?

Quali sono le funzioni del Direttore Generale, chi attribuisce questo incarico e quanto dura il mandato?

Cos'è un Browser?

Significant attention has been focused on the detection of serum IgG subclasses since IgG4-related disease (IgG4-RD) was described in 2010 as a novel disease entity (Takahashi et al. 2010). The discovery of IgG4-RD coincided with the observation of isolated elevations of IgG4 in the serum of patients with autoimmune pancreatitis and extra-pancreatic lesions (Hamano et al. 2002; Kamisawa et al. 2003). Kamisawa et al. reported IgG4-positive cells infiltrating the pancreas of patients with autoimmune pancreatitis, and proposed to name this entity as IgG4-RD

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## PROVA NUMERO 7

Cos'è un microscopio confocale e quali possibilità di analisi fornisce?

Quali sono i principali passaggi di un protocollo di purificazione di una proteina a partire da una miscela complessa?

Quali sono le funzioni del Comitato Unico di Garanzia e come viene costituito?

In un file immagine cosa sono i dpi?

Aimed to elucidate IgG subclass involvement in the immune-pathogenesis of diseases, this manuscript reviews the current literature data related to IgG subclasses distribution in a number of disorders. Different reports have shown a different distribution in patients with autoimmune diseases (Basile et al. 2018; Bijl et al. 2002; Engelhart et al. 2017; Gulli et al. 2020; Hamano et al. 2001; Niks et al. 2008; Zhang et al. 2015). Many reports suggest that the nature of antigens may drive and regulate the production of each IgG subclass (Valenzuela and Schaub 2018; Zhang et al. 2015). Each IgG isotype displays different biological and functional properties: the subclass distribution may therefore regulate the outcome of immune-mediated and autoimmune diseases

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## PROVA NUMERO 8

Cos'è un citoflorimetro e che possibilità di analisi fornisce?

Che relazione c'è tra trascritto e proteina prodotta e in che modo può essere valutata?

Quali sono le funzioni del Direttore di Dipartimento, come viene eletto e quanto dura il mandato?

Quale combinazione di tasti rapidi consente di tagliare, incollare un testo e formattarlo in grassetto?

Although the constant regions of the four IgG subclasses are more than 90% homologous, their effector functions and affinity for antigens can vary significantly: subsequently, IgG subclasses differ in their potential to induce an inflammatory response as they interact differentially with complement and FcγR (Bijl et al. 2002). In particular, studies aimed to optimize effector functions of therapeutic antibodies have pinpointed key amino acid residues, which control the affinity of the Fc region for FcγRs and for complement components (Valenzuela and Schaub 2018).

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## PROVA NUMERO 9

Cos'è la Fluorescenza a Tempo Risolto e quali possibilità di analisi fornisce?

Cos'è il complesso biotina-avidina e come può essere utilizzato in un test immunometrico?

Cos'è il Consiglio di Dipartimento, come viene eletto e quanto dura il mandato?

Cos'è One Drive?

Furthermore, to evaluate HCV-related disease deterioration, the METAVIR score system was used as an indicator of inflammation and liver fibrosis: a score of F0 or F1 means that no significant fibrosis is present; a score equal or greater than F2/F3 indicates mild or moderate fibrosis, while F4 correlates with cirrhosis and suggests that treatment should be started. Indeed, patients with CGs and IgG3 have a METAVIR score between F0 and F1, while worsening patients with IgG3-negative type II CGs, including monoclonal IgM and polyclonal IgG, have a higher score (F2-to-F4)

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