UNIVERSITÀ DEGLI STUDI DI TORINO
ALMA UNIVERSITAS TAURINENSIS

O.I.R.M. S.ANNA

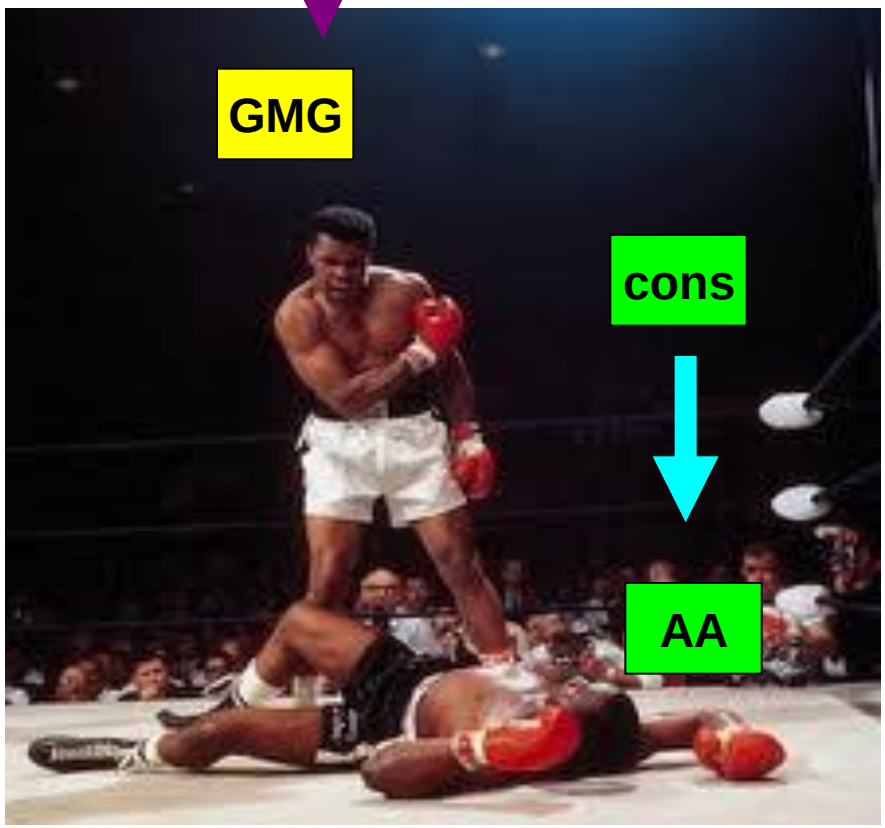
Trattamento con Rituximab

Alessandro Amore, MD, PhD
Ospedale Universitario
Regina Margherita
Torino

RITUXIMAB

pros

GMG

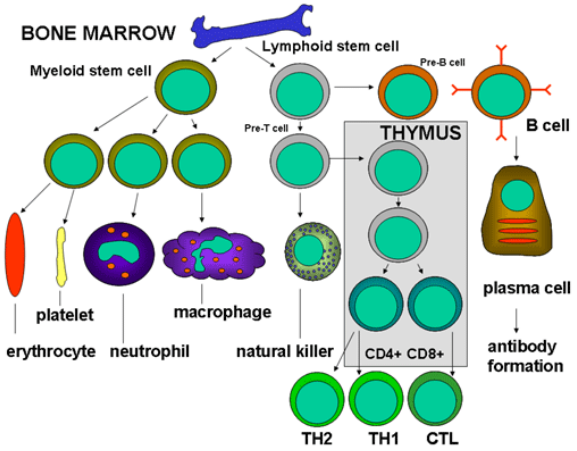


cons

AA

Le SN sono un……

Suscettibilità genetica slatentizzata dall'ambiente



Genetiche

Sovraccarico

Epigenetica= Ambiente

Vi racconto una fiaba……
che molti di voi avranno letto un milione di volte
Autori fratelli Grimm (colleghi nefrologi)

GM Ghiggeri

A Amore

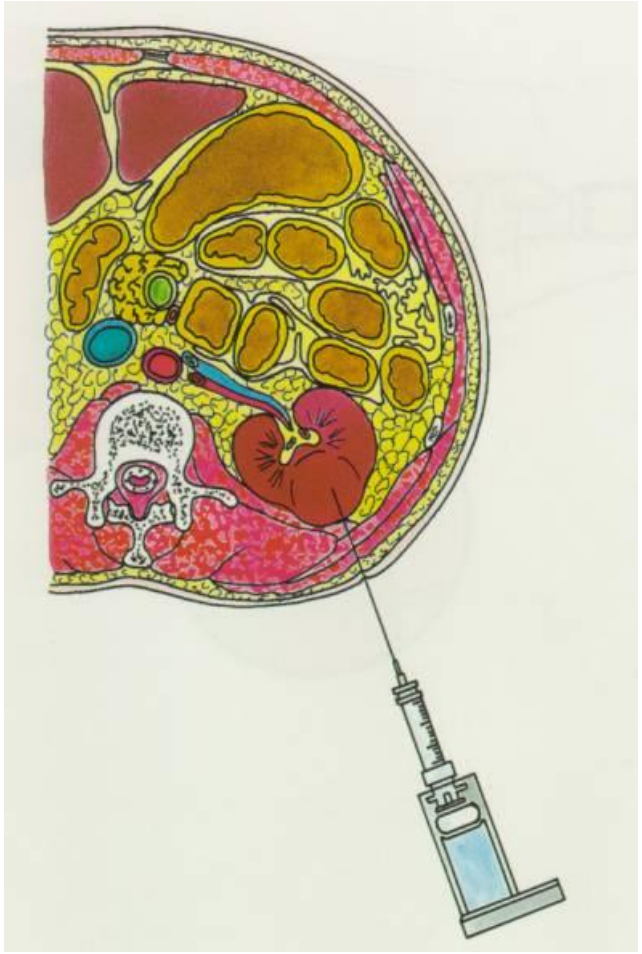
Tutto inizia così…….

Lo tratto…ma…..allo scalaggio…..

Pixmac.com 76796783

Che faccio?

Se risponde meno al cortisone spesso si arriva alla….

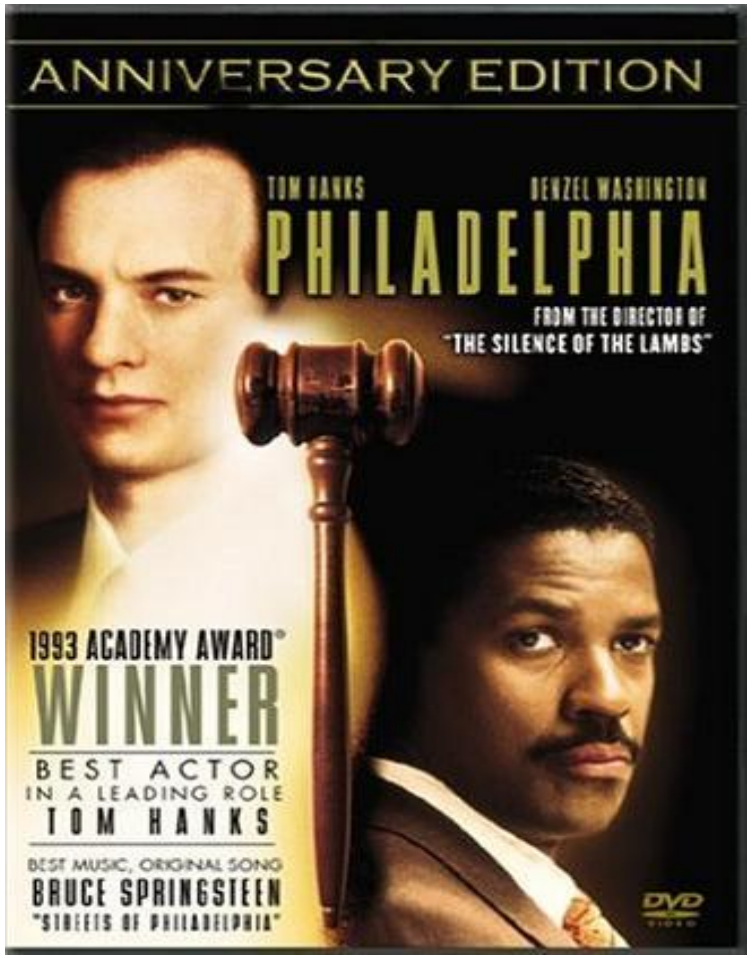


E si continua così……

Purtroppo……spesso……..
il risultato è questo…….

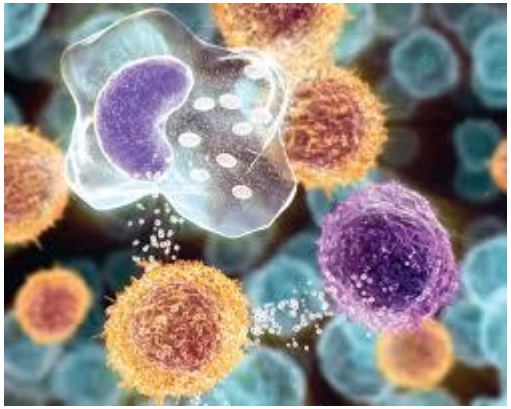
Con rassegnazione spesso……..

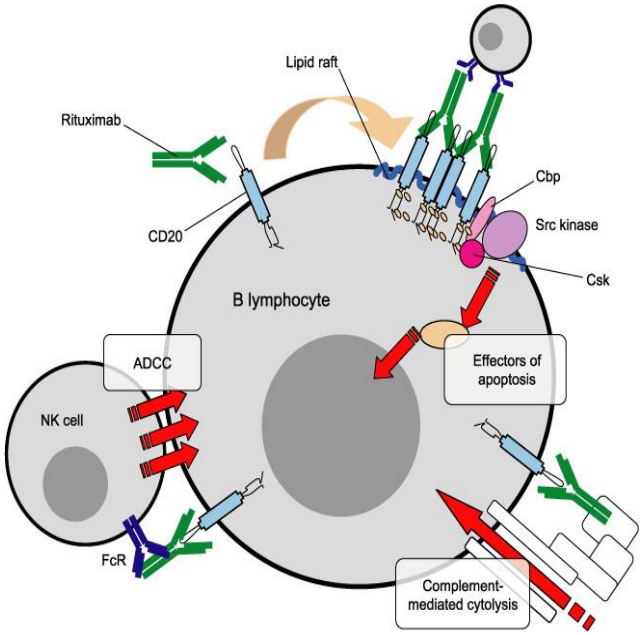
Un nuovo attore
E’ COMPARSO NEL TRATTAMENTO
della SN



Il RITUXIMAB:
uccide le cellule B che esprimono il recettore CD20

Linfocita B



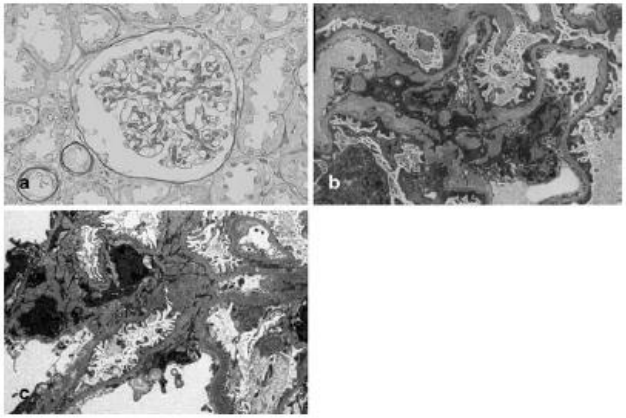


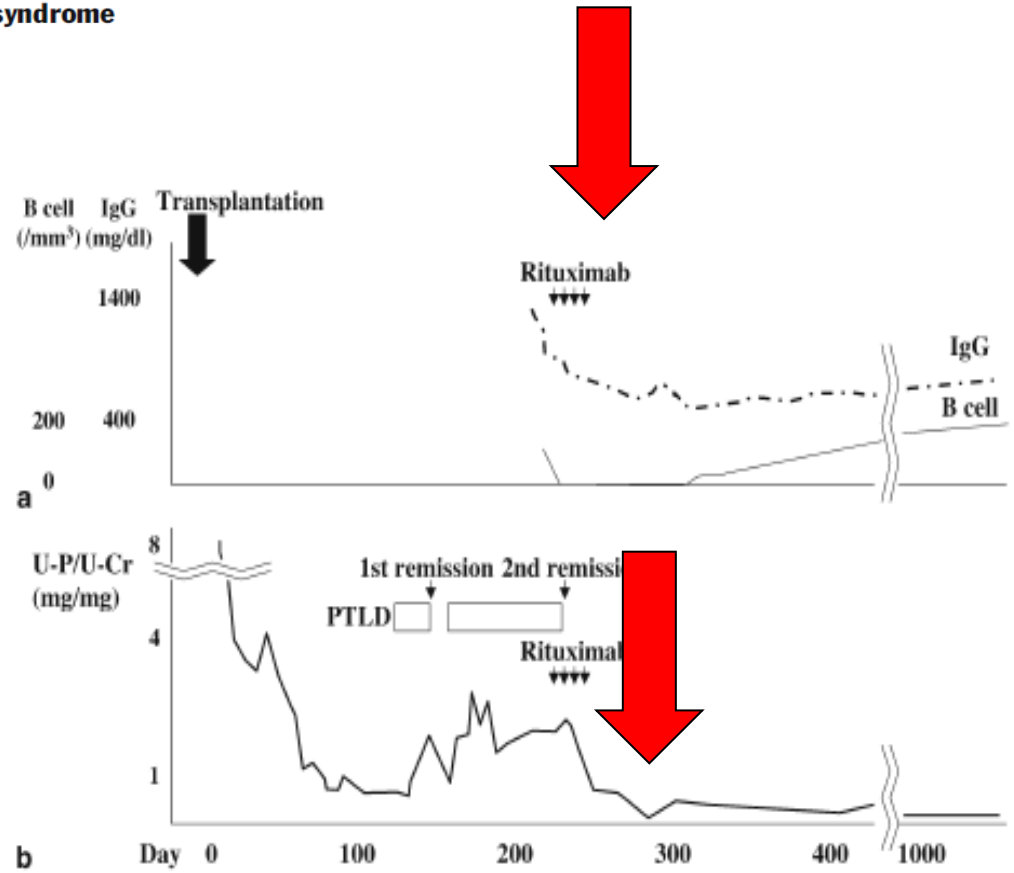
Pediatr Nephrol (2005) 20:1660–1663
DOI 10.1007/s00467-005-2013-7

BRIEF REPORT

Kandai Nozu · Kazumoto Iijima · Masato Fujisawa · Atsuko Nakagawa · Norishige Yoshikawa · Masafumi Matsuo

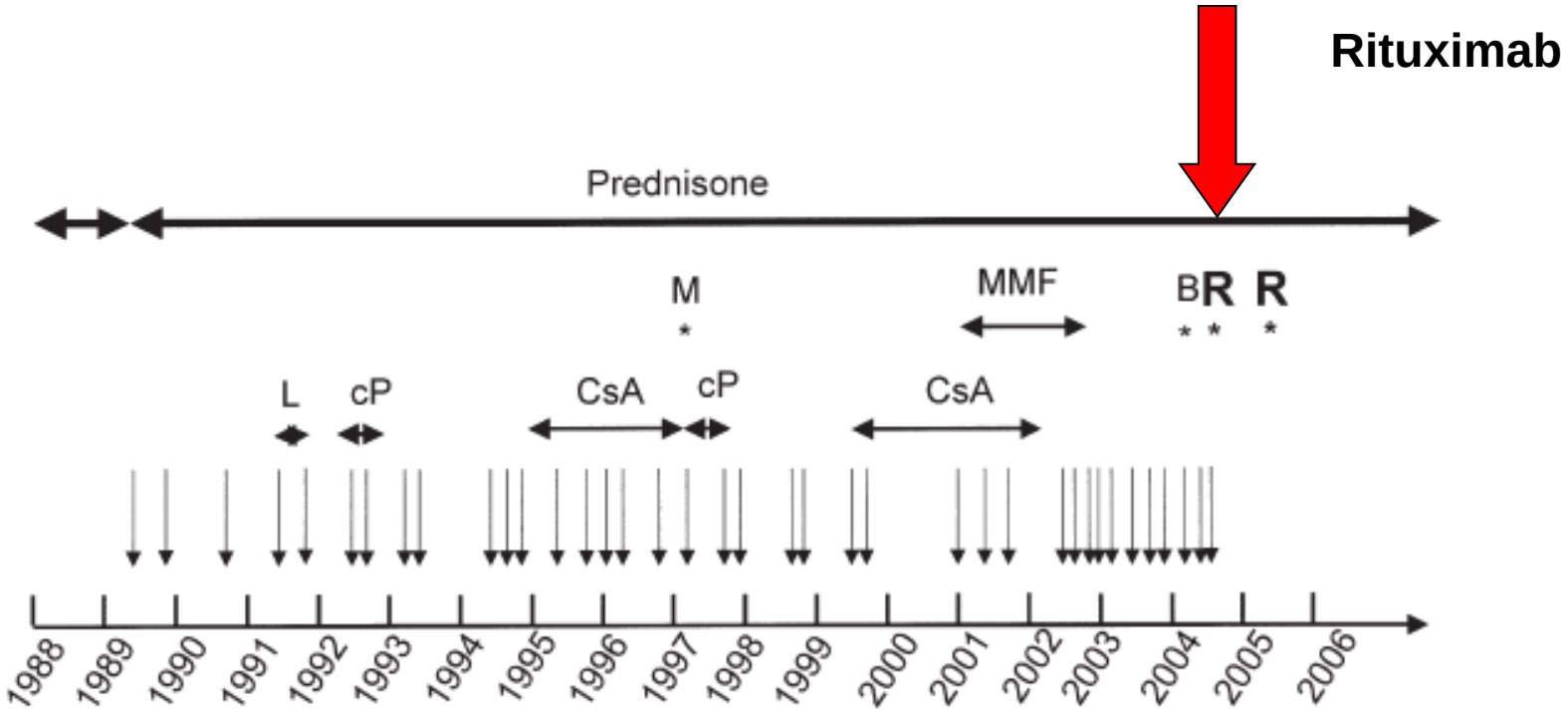
Rituximab treatment for posttransplant lymphoproliferative disorder (PTLD) induces complete remission of recurrent nephrotic syndrome





Unexpected Efficacy of Rituximab in Multirelapsing Minimal Change Nephrotic Syndrome in the Adult: First Case Report and Pathophysiological Considerations

Hélène François, MD, PhD, Eric Daugas, MD, PhD, Albert Bensman, MD, and Pierre Ronco, MD, PhD



Pediatr Nephrol
DOI 10.1007/s00467-012-2260-3

REVIEW

Indications for use and safety of rituximab in childhood renal diseases

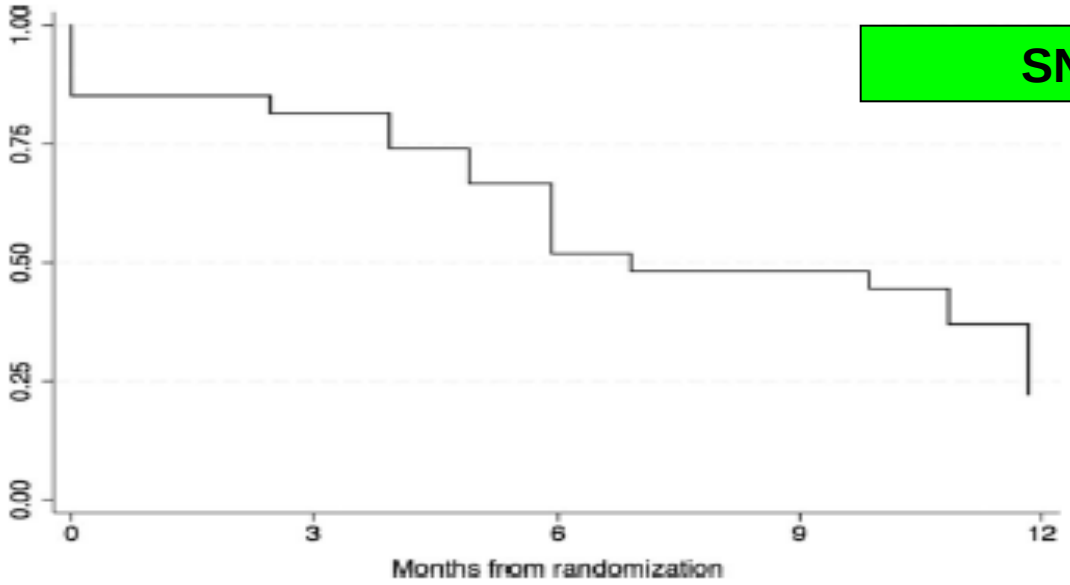
Kjell Tullus · Stephen D. Marks

Table 2 Outcome in larger case series of rituximab treatment in children with steroid-dependent or frequently relapsing nephrotic syndrome

Author	Number of children	Full or partial response (*n*) (%)	Side-effects
Benz et al. [32]	1	1	None described
Guigonis et al. [33]	22	19 (85 %)	Five mild
			Four regarded as severe
			Atrial arrhythmia stopping spontaneously
			Malaise, transient bronchospasm
			Severe rotavirus gastroenteritis
			Transient neutropenia with gingivitis
Prytula et al. [34]	28	23 (82 %)	Data not separated on different diagnosis in the publication
			19 (27 %) of 70 showed side-effect
			Most common acute reaction to infusion one was a severe and life-threatening anaphylactic reaction
			Three severe infection
			Agranulocytosis with sepsis
			Two cases of pneumonia one of which with pseudomonas
Gulati et al. [35]	24	20 (83.3 %)	Three had mild infusion reactions
Kemper et al. [36]	37	26 (70.3 %)	No serious side-effects

Short-Term Effects of Rituximab in Children with Steroid- and Calcineurin-Dependent Nephrotic Syndrome: A Randomized Controlled Trial

Pietro Ravani,[1] Alberto Magnasco,[1] Alberto Edefonti,[2] Luisa Murer,[3] Rossella Rossi,[4] Luciana Ghio,[5] Elisa Benetti,[6] Floriana Sereni,[6] Andrea Pasini,[6] Nadia Dalla Vera,[7] Felice Sica,[7] Mirco Belingheri,[8] Francesco Scolari,[9] and Gian Marco Ghiggeri[1]

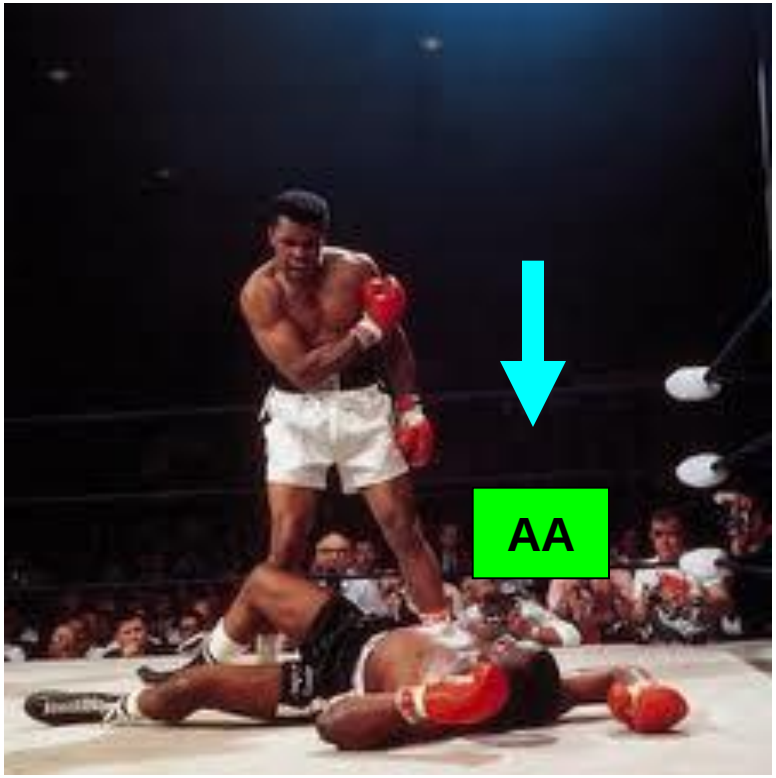


SNSD

Remissione dopo sospensione steroide e inibitori calcineurine

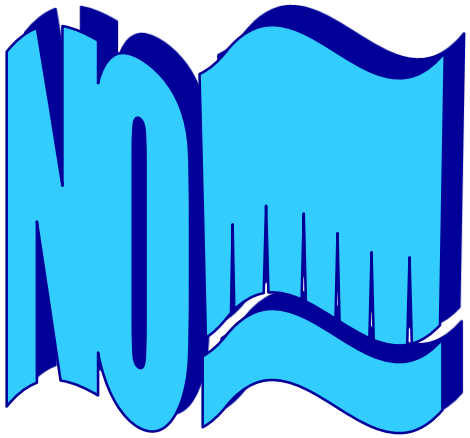
And the winner is…..

EBBENE HO PERSO……



Tuttavia

?



Dicer Cuts the Kidney

J.J. David Ho and Philip A. Marsden

Renal Division and Department of Medicine, St. Michael's Hospital and University of Toronto, Toronto, Ontario, Canada

J Am Soc Nephrol 19: 2043–2046, 2008. doi: 10.1681/ASN.2008090986

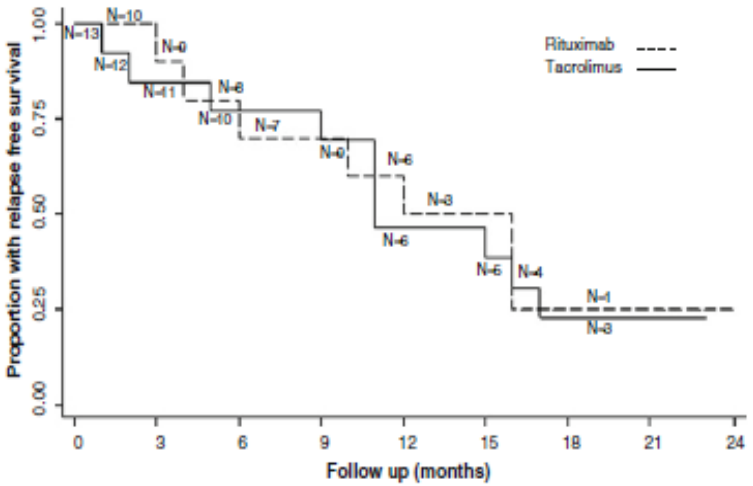
We should occasionally stop, take a breath, and reflect about what is happening at the interface between medicine and science. Collectively, we are uncovering paradigms that are relevant to understanding disease at a frantic pace. One can only turn to wonder, in this moment of reflection, when trying to imagine what it must feel like as a treating physician trying to filter all of these new concepts. Which advances are relevant? Am I filtering out those that are merely incremental? Is this concept transformative? Does this article have the potential to affect my understanding of the cause, prevention, and treatment of kidney disease? Recognizing an article that reports a landmark discovery is a challenge.

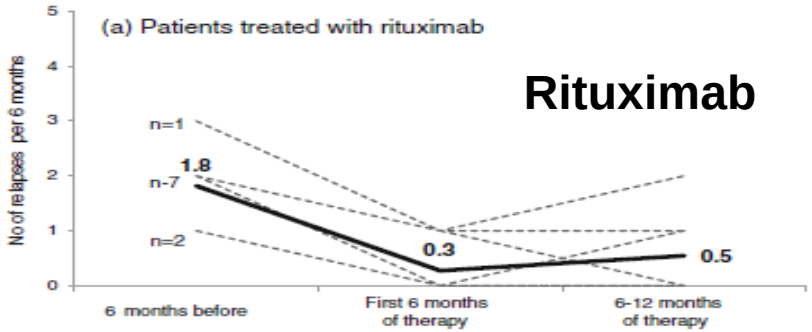
Pediatr Nephrol (2012) 27:235–241
DOI 10.1007/s00467-011-1997-4

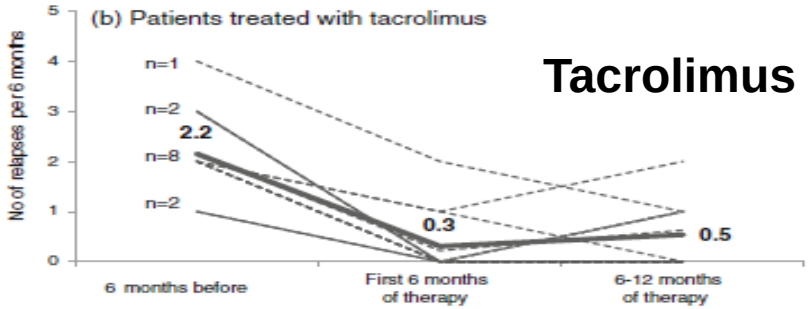
ORIGINAL ARTICLE

Short-term efficacy of rituximab versus tacrolimus in steroid-dependent nephrotic syndrome

Aditi Sinha · Arvind Bagga · Ashima Gulati · Pankaj Hari







Rituximab in Children with Resistant Idiopathic Nephrotic Syndrome

Alberto Magnasco,* Pietro Ravani,† Alberto Edefonti,‡ Luisa Murer,§ Luciana Ghio,‡ Mirco Belingheri,‡ Elisa Benetti,§ Corrado Murtas,* Giovanni Messina,‖ Laura Massella,¶ Maria Gabriella Porcellini,** Michela Montagna,†† Mario Regazzi,†† Francesco Scolari,‡‡ and Gian Marco Ghiggeri*

*Nephrology, Dialysis, Transplantation, IRCCS Giannina Gaslini Children Hospital, Genoa, Italy; †Department of Medicine, Division of Nephrology, Faculty of Medicine, University of Calgary, Calgary, Alberta, Canada; ‡Nephrology, Dialysis, Transplantation, Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico, Milan, Italy; §Nephrology, Dialysis, Transplantation Unit, Azienda Ospedaliera-University of Padova, Padova, Italy; ‖Pediatric Nephrology and Dialysis, Ospedale Giovanni XXIII, Bari, Italy; ¶Nephrology, Dialysis, Transplantation, IRCCS Bambin Gesù Children Hospital, Rome, Italy; **Nephrology, Dialysis, Transplantation, Regina Margherita Children Hospital, Turin, Italy; ††Clinical Pharmacokinetics Unit, Foundation IRCCS Policlinico San Matteo, Pavia, Italy; and ‡‡Division of Nephrology and Dialysis, Ospedale di Montichiari, Brescia, Italy

SNSR

Variable	Group Mean (95% CI)	Percentage Reduction (95% CI)	*P* Value
Model 1 (R^2 = 0.14)			
all controls (*n*=15)	0.36 (0.05–2.29)	−12 (−73 to 110)	0.77
all rituximab patients (*n*=16)	0.32 (0.05–1.88)		
Model 2 (R^2 = 0.51)			
Early resistance			
control group (–*n*=7)	1.49 (0.24–9.39)	−3 (−67 to 179)	0.95
rituximab group (no previous remission) (*n*=9)	1.44 (0.21–9.99)		
Delayed resistance			
control group (previous remission (*n*=8)	0.52 (0.08–3.27)	−48 (−79 to 93)	0.40
rituximab group (previous remission) (*n*=7)	0.32 (0.07–1.51)		

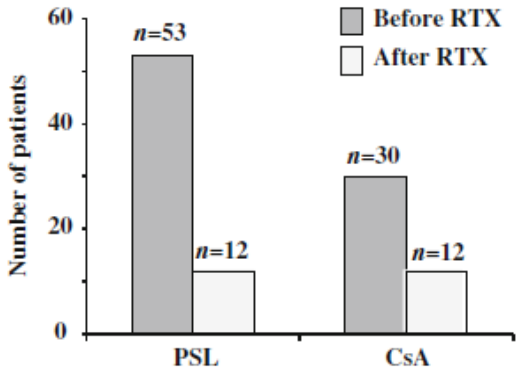
Pediatr Nephrol (2013) 28:257–264
DOI 10.1007/s00467-012-2319-1

ORIGINAL ARTICLE

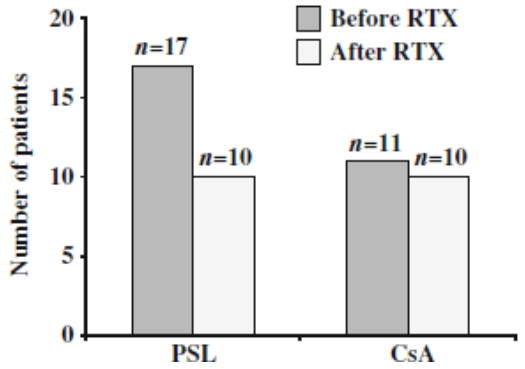
Survey of rituximab treatment for childhood-onset refractory nephrotic syndrome

Shuichi Ito · Koichi Kamei · Masao Ogura · Tomohiro Udagawa · Shuichiro Fujinaga · Mari Saito · Mayumi Sako · Kazumoto Iijima

SNSD



SNSR



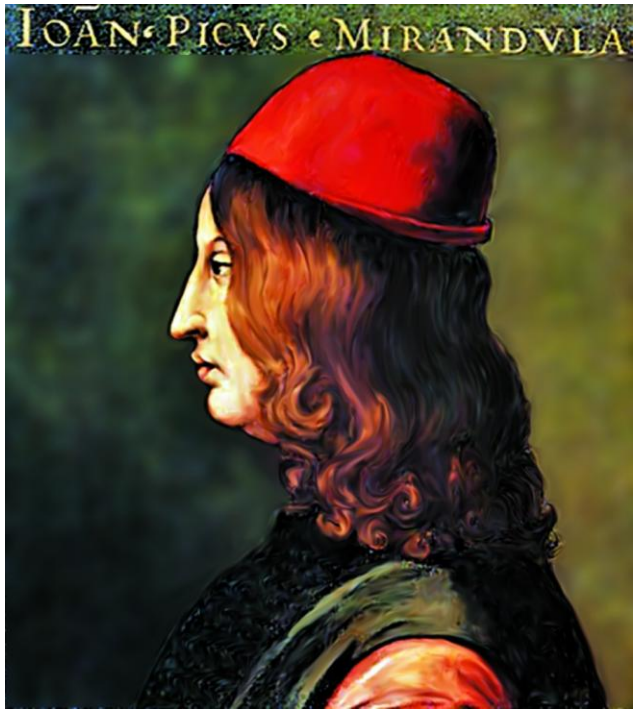
Le SN sono un……

SINDROMI NEFROSICHE STEROIDO-DIPENDENTI

SINDROMI NEFROSICHE STEROIDO-RESISTENTI

**Differenza solo in base alla risposta clinica,
Non al quadro istologico**

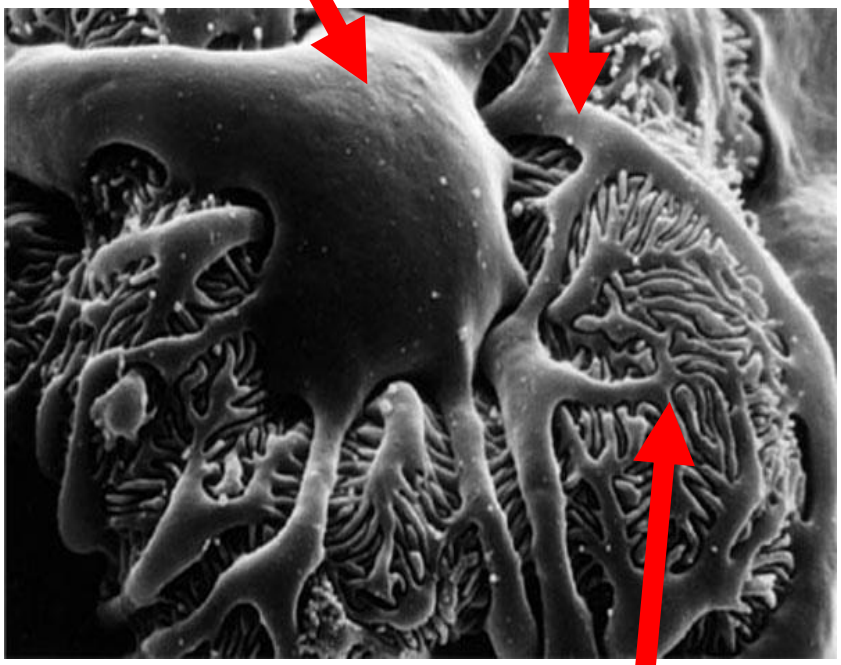
Quale è il razionale dell'uso di Rituximab nelle SN



Podocita: un esempio di perfezione….

Corpo primario

Corpo secondario



Corpo terziario o pedicelli

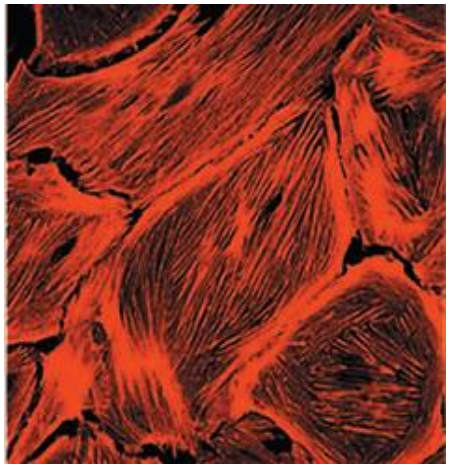
original article
http://www.kidney-international.org

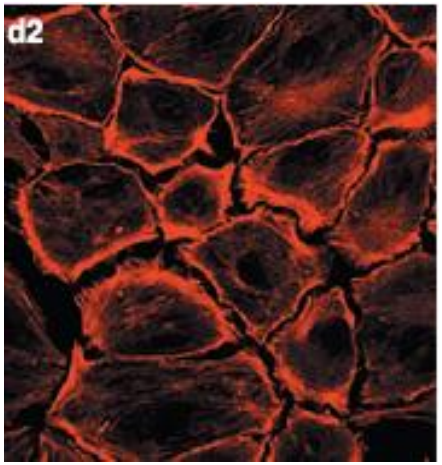
Triptolide reduces proteinuria in experimental membranous nephropathy and protects against C5b-9-induced podocyte injury *in vitro*

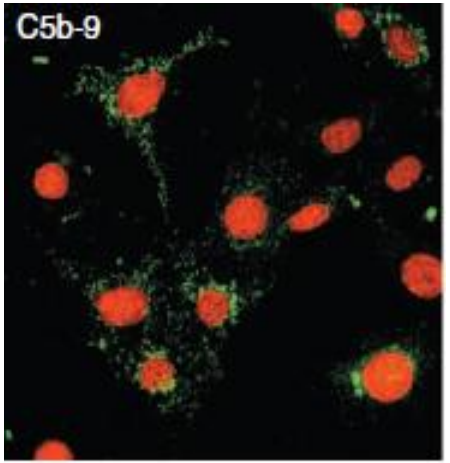
Zhao-Hong Chen[1,2], Wei-Song Qin[1,2], Cai-Hong Zeng[1], Chun-Xia Zheng[1], Yi-Mei Hong[1], Yi-Zhou Lu[1], Lei-Shi Li[1] and Zhi-Hong Liu[1]

[1]*Research Institute of Nephrology, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China*

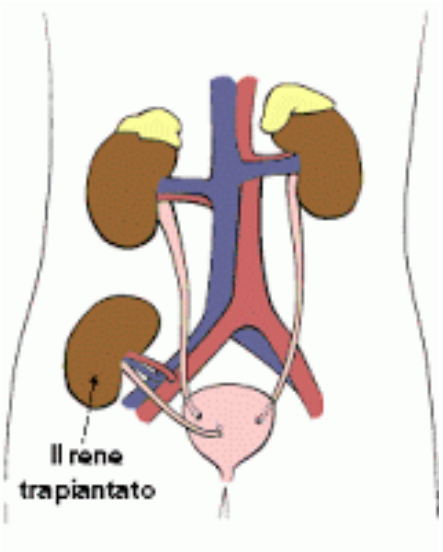
Importanza di una precisa orchestrazione di filamenti di actina per il mantenimento di espressione fenotipica e funzionale dei podociti

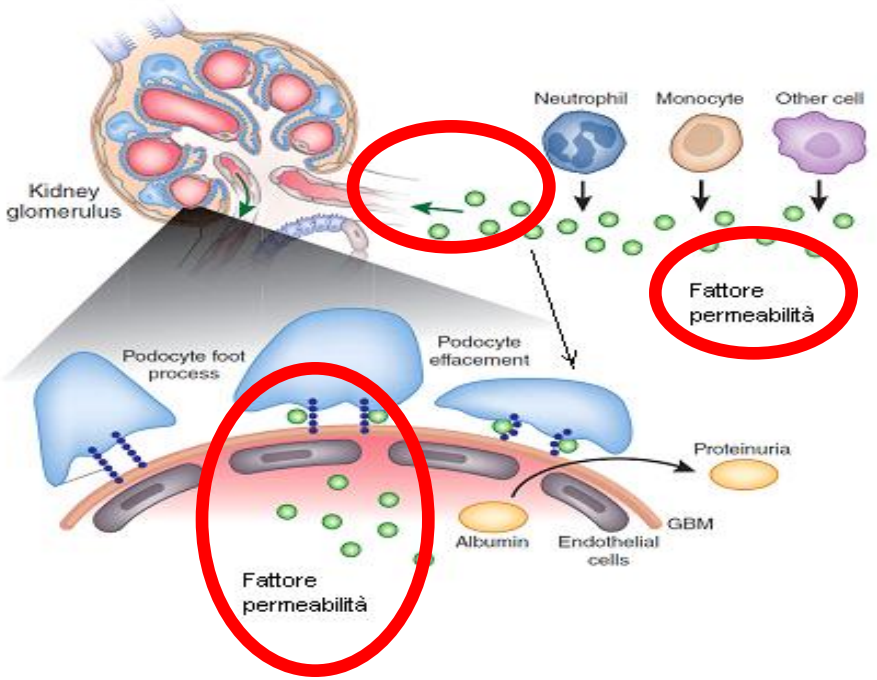






FATTORE DI PERMEABILITA’





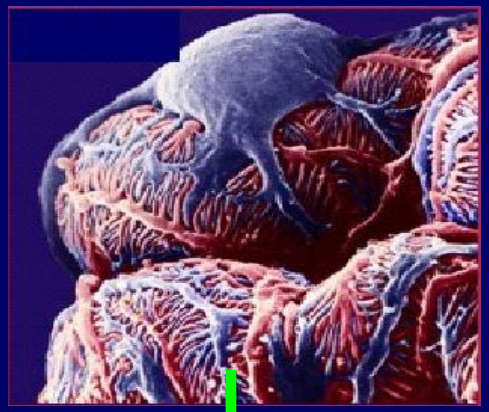
Trapianto di rene

suPAR

Fattore di permeabilità e test di permeabilità all'albumina

Siero di FSGS

Albumina



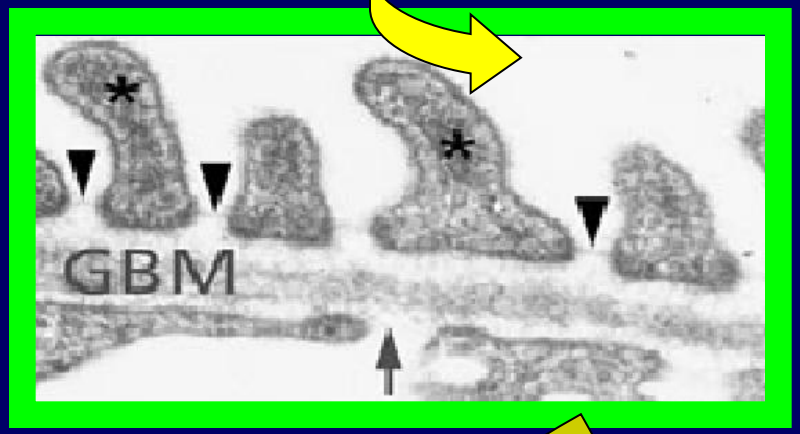
Albumina

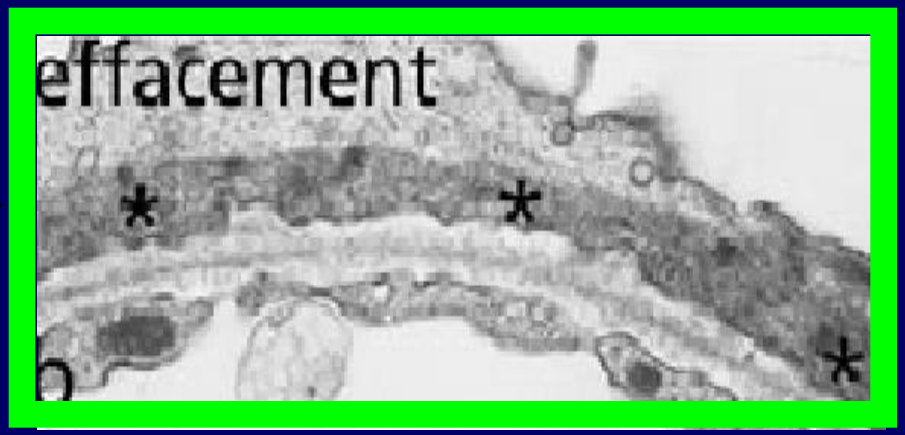
p(Alb) <1

V Savin N Engl J Med. 1996 4;334:878-83.

M Artero e M Carraro

Fattore di permeabilità e alterazioni podocitarie





Pediatr Nephrol (2009) 24:2097–2108
DOI 10.1007/s00467-009-1137-6

REVIEW

Disease recurrence in paediatric renal transplantation

Pierre Cochat · Sonia Fargue · Guillaume Mestrallet · Therese Jungraithmayr · Paulo Koch-Nogueira · Bruno Ranchin · Lothar Bernd Zimmerhackl

Primary disease	Recurrence rate	Graft loss to recurrence
FSGS	14–50%	40–60%
Atypical HUS	20–80%	10–83%
Typical HUS	0–1%	0–1%
MPGN type 1	30–77%	17–50%
MPGN type 2	66–100%	25–61%
SLE nephritis	0–30%	0–5%
IgA nephritis (Berger disease)	35–60%	7–10%
Henoch–Schönlein nephritis	31–100%	8–22%
Primary hyperoxaluria type 1	90–100%	80–100%

Nephrol Dial Transplant (2010) 25: 25–31
doi: 10.1093/ndt/gfp538
Advance Access publication 28 October 2009

Recurrence of focal segmental glomerular sclerosis (FSGS) after renal transplantation

Claudio Ponticelli

Fattori che condizionano la recidiva di FSGS da Cause genetiche (eterozigosi in forme sporadiche)

Factors associated with increased risk of recurrence	Factors associated with low risk of recurrence
Second transplant after loss from recurrence	Familial FSGS
Childhood	Sporadic form with podocin
Rapid progression to uraemia	Slow progression to uraemia
Mesangial proliferation in native kidneys	Non-nephronic proteinuria in the original disease
Living donation	
White race	
Elderly donor	

Forme genetiche circa 8% recidive

Pediatr Nephrol (2009) 24:2097–2108
DOI 10.1007/s00467-009-1137-6

REVIEW

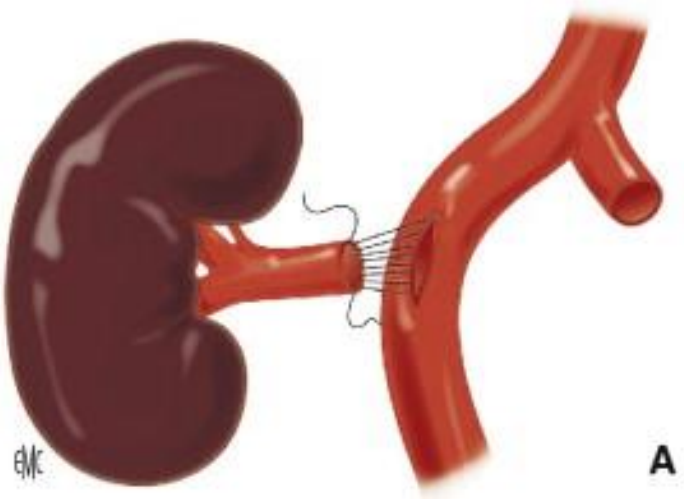
Disease recurrence in paediatric renal transplantation

Pierre Cochat · Sonia Fargue · Guillaume Mestrallet · Therese Jungraithmayr · Paulo Koch-Nogueira · Bruno Ranchin · Luther Bernd Zimmerhackl

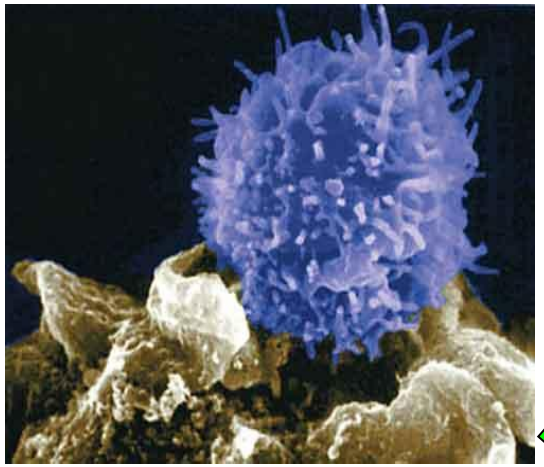
Forme NON GENETICHE

Proven increased risk	Independent/controversial risk factors	Proven decreased risk
Recurrence in a first graft	Gender	African–American recipients
Onset of NS during childhood	Mesangial hypercellularity	Genetic and syndromic NS
White and Asian recipients		
Rapid course to ESRD (< 3 years)	Presence of FSGS circulating factor	
	HLA typing/matching	
	Time interval on dialysis prior to Tx	
	Type of immunosuppressive therapy	
	Use of induction therapy	
	Bilateral nephrectomy of native kidneys	

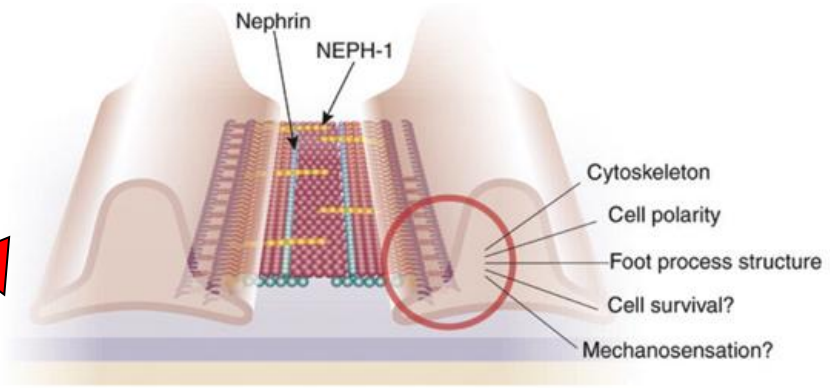
Recidiva FSGS
da fattore di permeabilità



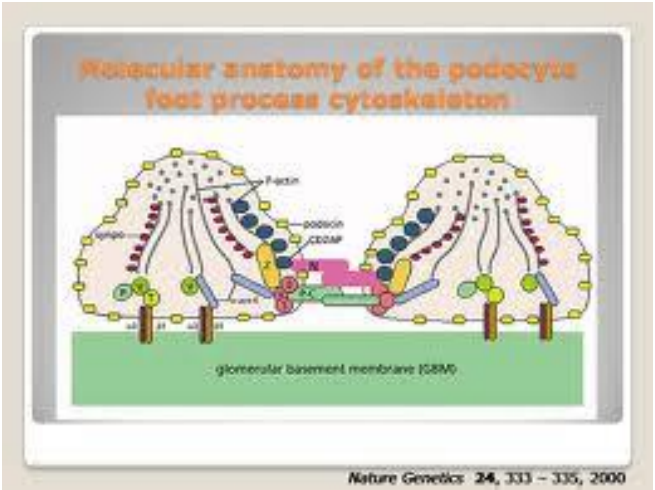
Anni 70: Ipotesi di Shaloub

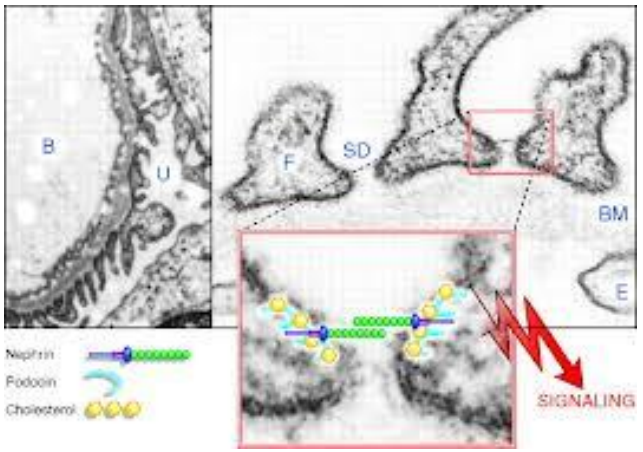


Linfocita T



Citochina?





Identificazione e caratterizzazione
Fattore di permeabilità

V Savin N Engl J Med. 1996 Apr 4;334(14):878-83.
Immunoglobulina, frammento di Ig

Sharma et l, JASN 1999, 10: 552-561
FP: Non Ig 30-50 kDa

Garin EH et l, Nephron Exp Nephrol 2006; 102:105-112
B-amilasi+ 100 kDa glicoproteina fusione pedicelli

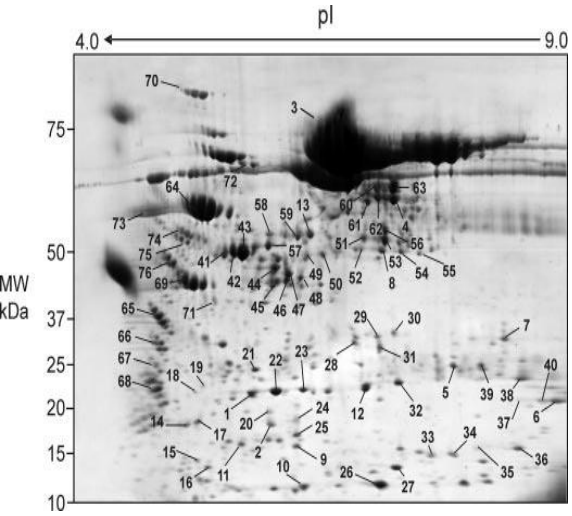
V Savin cJASN 2010; 5: 2115-2121.
emopexina

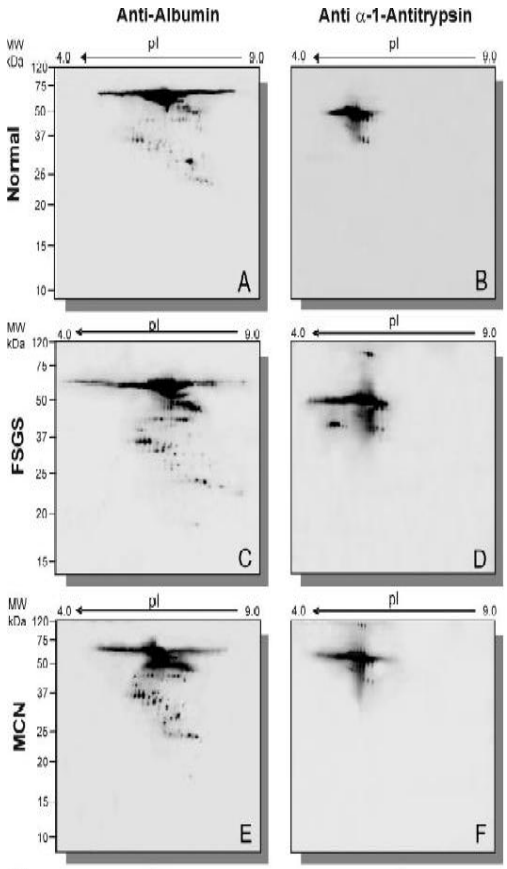
→ →

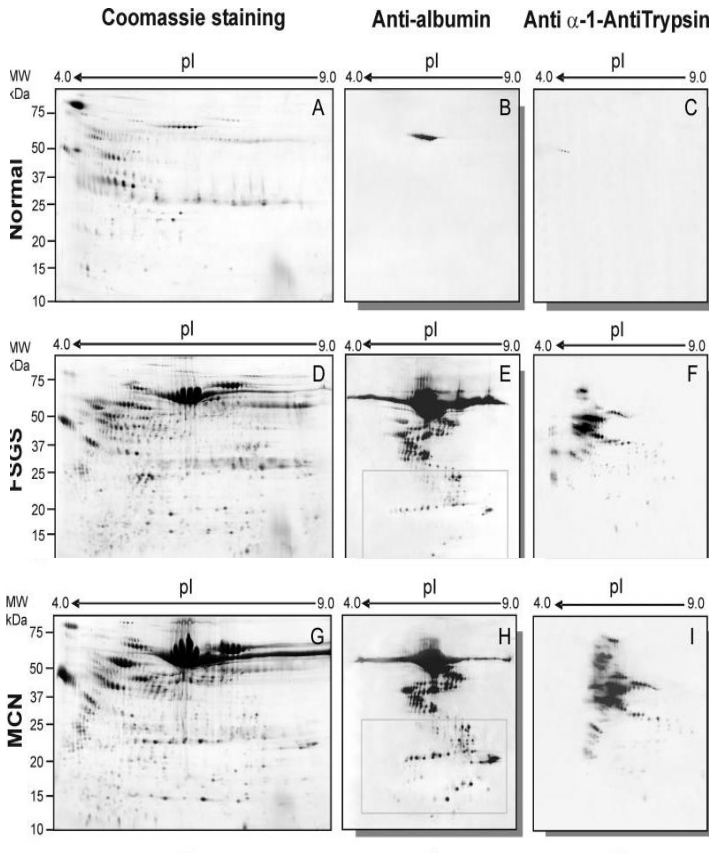
V Savin cJASN 2010; 5: 2115-2121.
CLC-2 (cardiotrophine-like citokine 1- IL6 family)

Ruolo dell'albumina ossidata e dell'α1-antitripsina quali fattori di permeabilità (analisi proteomica)

GM Ghiggeri, G Candiano, L Musante et al
JASN 2006 17:3139-3148
JASN 200718: 799-810





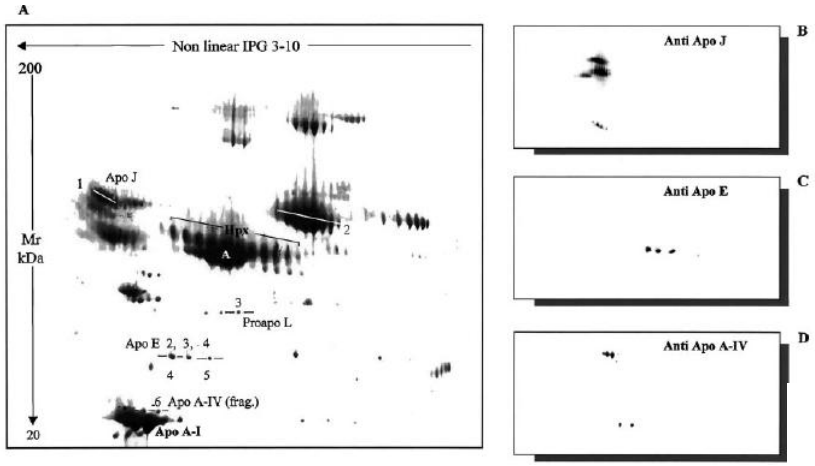


J Am Soc Nephrol 12: 143–150, 2001

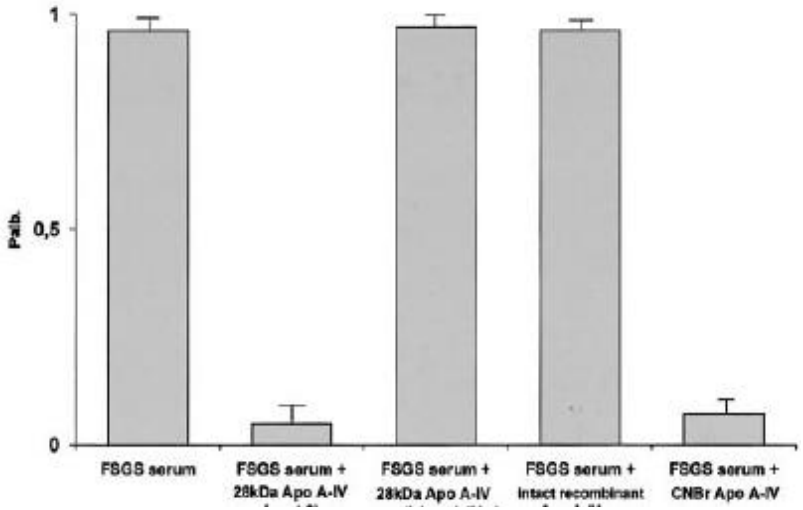
Apolipoproteins Prevent Glomerular Albumin Permeability Induced *In Vitro* by Serum from Patients with Focal Segmental Glomerulosclerosis

GIOVANNI CANDIANO,* LUCA MUSANTE,* MICHELE CARRARO,† LUIGI FACCINI,† LUCIANO CAMPANACCI,† CRISTINA ZENNARO,† MARY ARTERO,† FABRIZIO GINEVRI,* FRANCESCO PERFUMO,* ROSANNA GUSMANO,* and GIAN MARCO GHIGGERI*

*Unit and Laboratory of Nephrology, Istituto G. Gaslini, Genoa, and †Istituto di Medicina Clinica, University of Trieste, Trieste, Italy.



Inibitore
Fattore fisiologico
di permeabilità



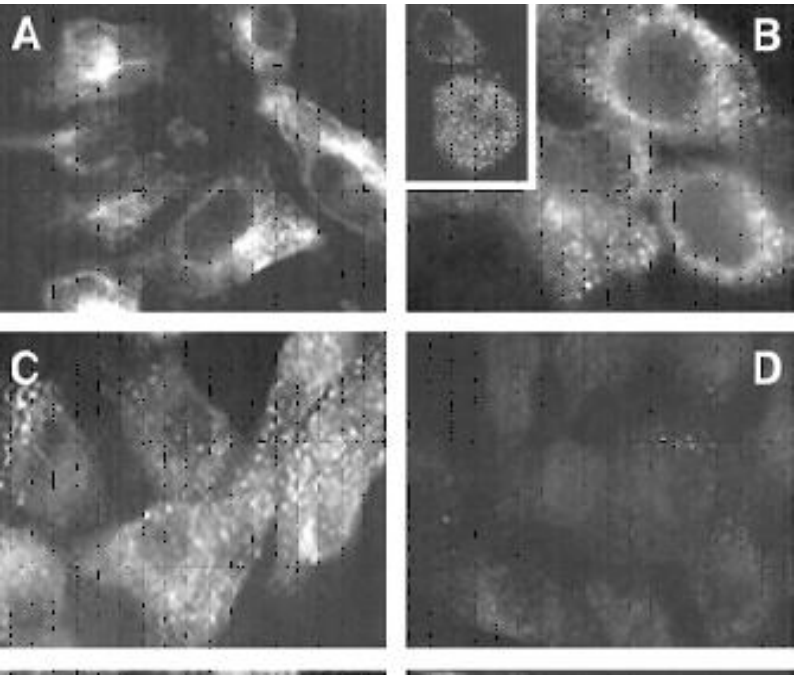
Ruolo dei fattori circolanti che influenzano la permeabilità della barriera di filtrazione glomerulare

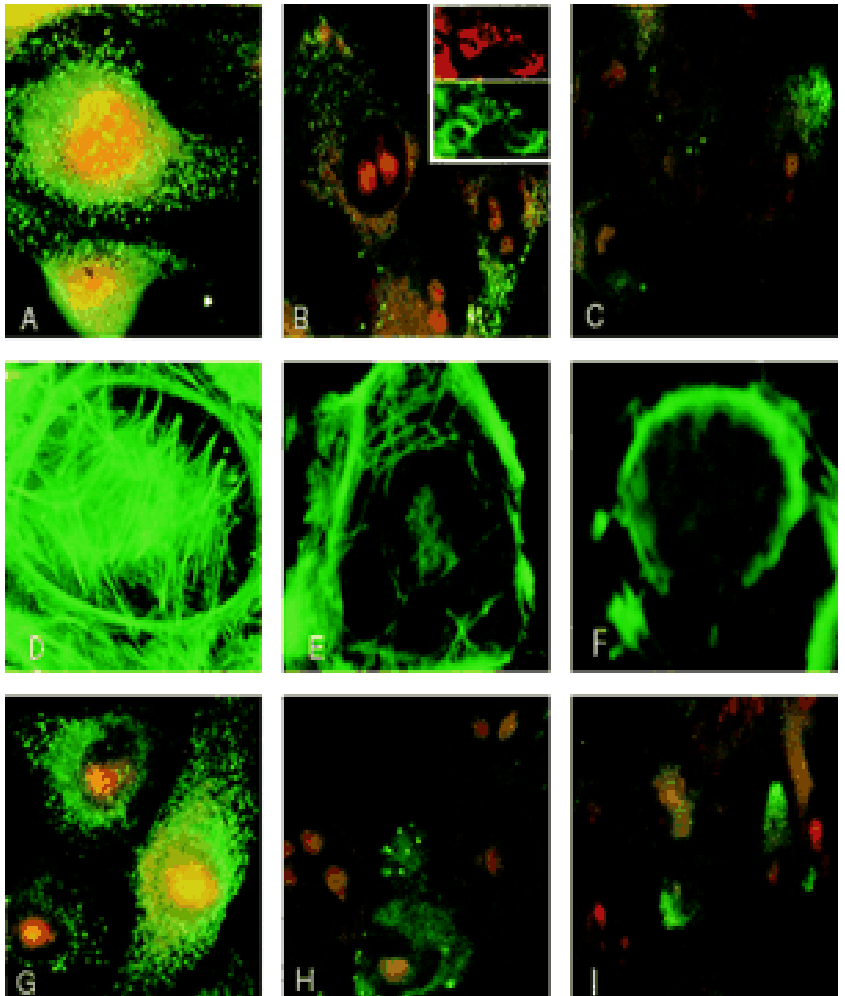
Fattori Permeabilizzanti (Ig?, proteasi?) β-amilasi-100 kDa Glic,)

Albumina ossidata

Inibitori Fattori Permeabilizzanti (HDL-lipoproteine L, E2, E4, J)

Direct effect of plasma permeability factors from patients with Idiopathic FSGS on nephrin and podocin expression in human podocytes
Camussi et al Int J Mol Med, 2005; 16: 49-58





Nefrina

Actina


Marguerite Yourcenar
Il Tempo,
grande scultore
Dicemo saggi magistrali
sull'inesorabile scalpore
del tempo
ET
Einaudi

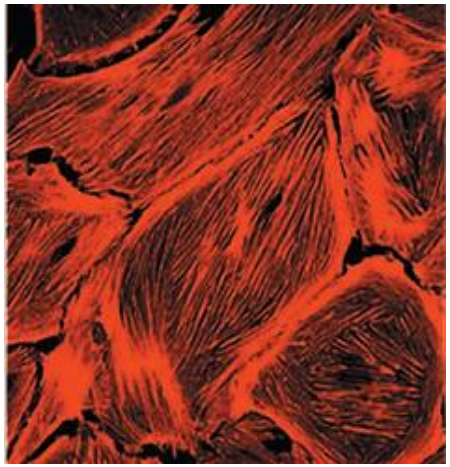
original article
http://www.kidney-international.org

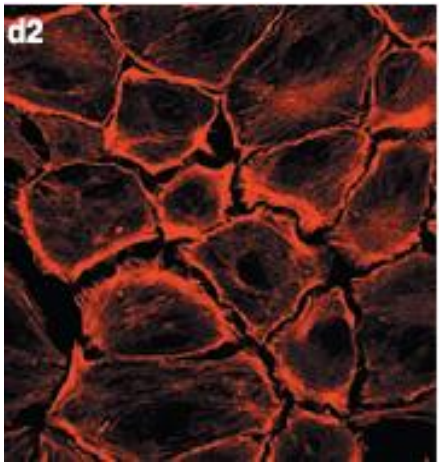
Triptolide reduces proteinuria in experimental membranous nephropathy and protects against C5b-9-induced podocyte injury *in vitro*

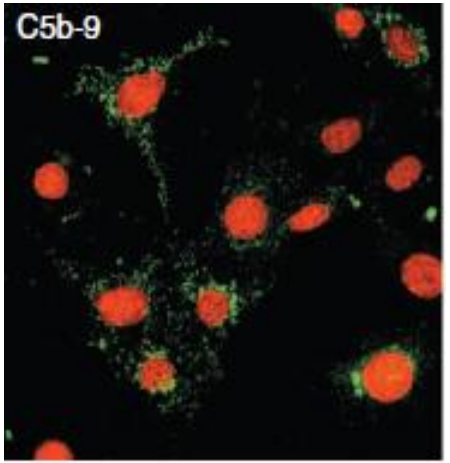
Zhao-Hong Chen[1,2], Wei-Song Qin[1,2], Cai-Hong Zeng[1], Chun-Xia Zheng[1], Yi-Mei Hong[1], Yi-Zhou Lu[1], Lei-Shi Li[1] and Zhi-Hong Liu[1]

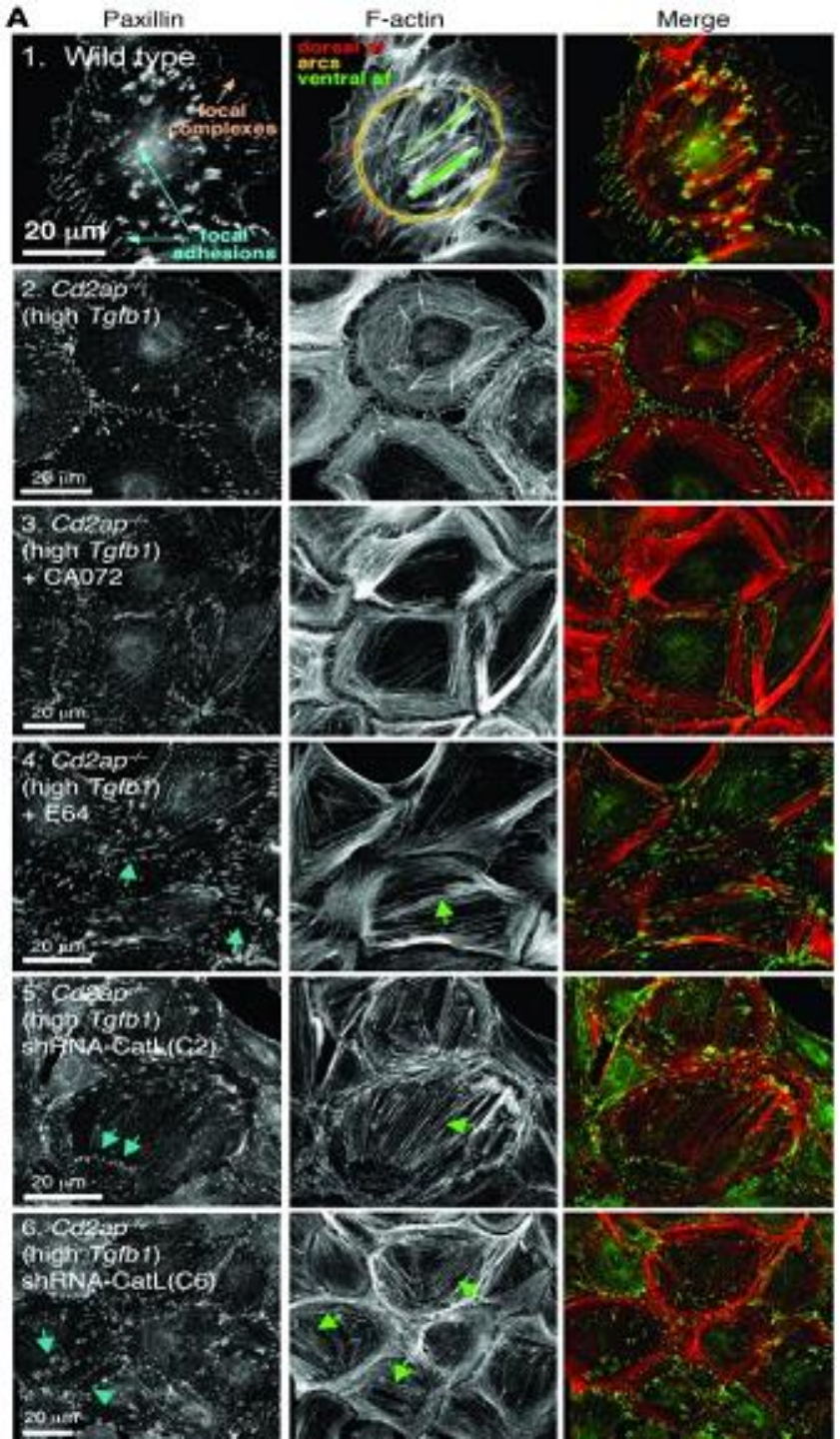
[1]*Research Institute of Nephrology, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China*

Importanza di una precisa orchestrazione di filamenti di actina per il mantenimento di espressione fenotipica e funzionale dei podociti









L'organizzazione del citoscheletro dipende dall'azione concertata di una lunga serie di molecole

FINALIZZATA ALLA REALIZZAZIONE E FUNZIONE DELLO SLIT DIAPHRAGM

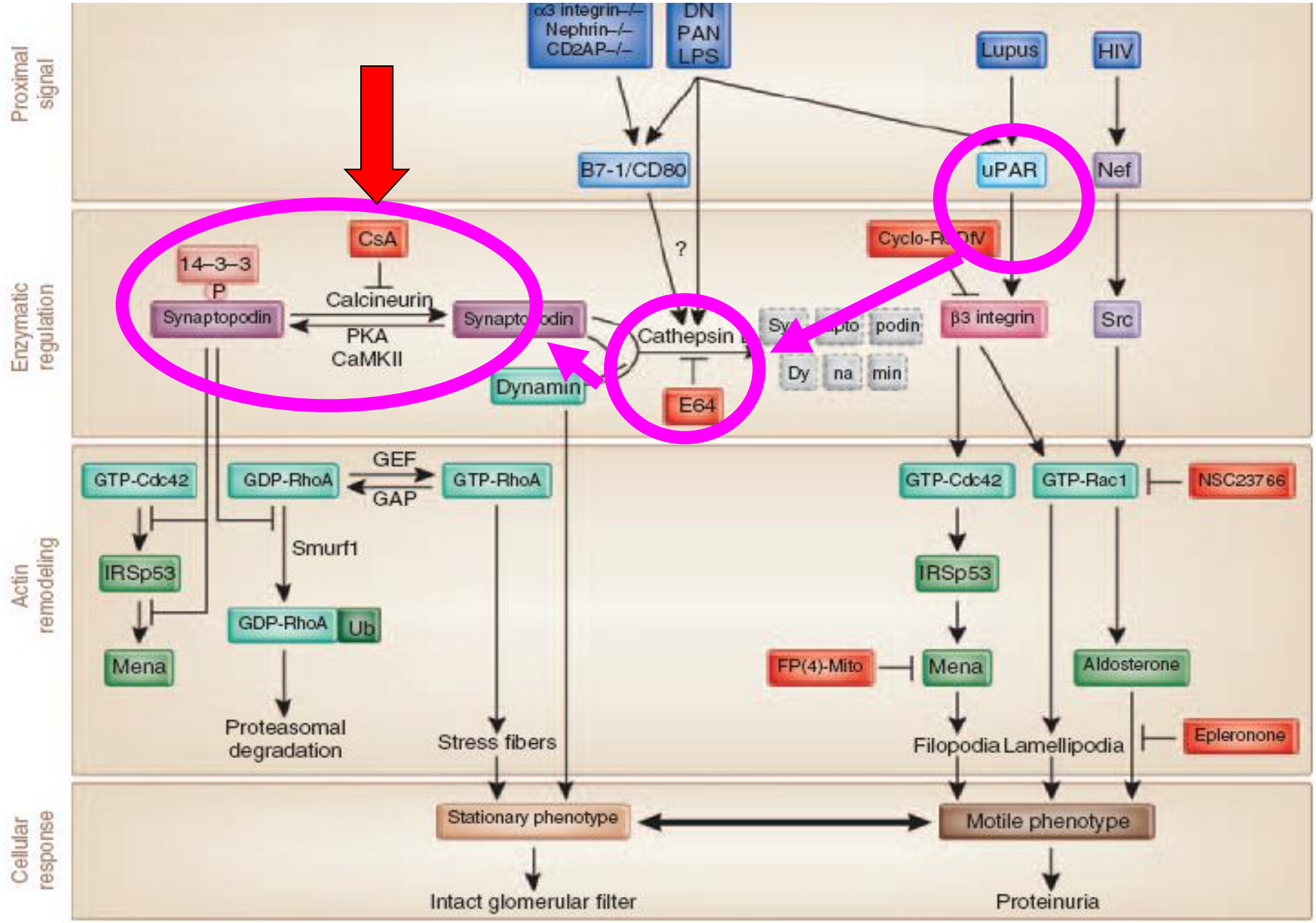
nature medicine

The actin cytoskeleton of kidney podocytes is a direct target of the antiproteinuric effect of cyclosporine A

Christian Faul[1,2], Mary Donnelly[1,2], Sandra Merscher-Gomez[1,2], Yoon Hee Chang[2,5], Stefan Franz[2,5], Jacqueline Delfgaauw[2,5], Jer-Ming Chang[3], Hoon Young Choi[2], Kirk N Campbell[1,2], Kwanghee Kim[2], Jochen Reiser[1,4] & Peter Mundel[1,2]

Proteinuria: an enzymatic disease of the podocyte?

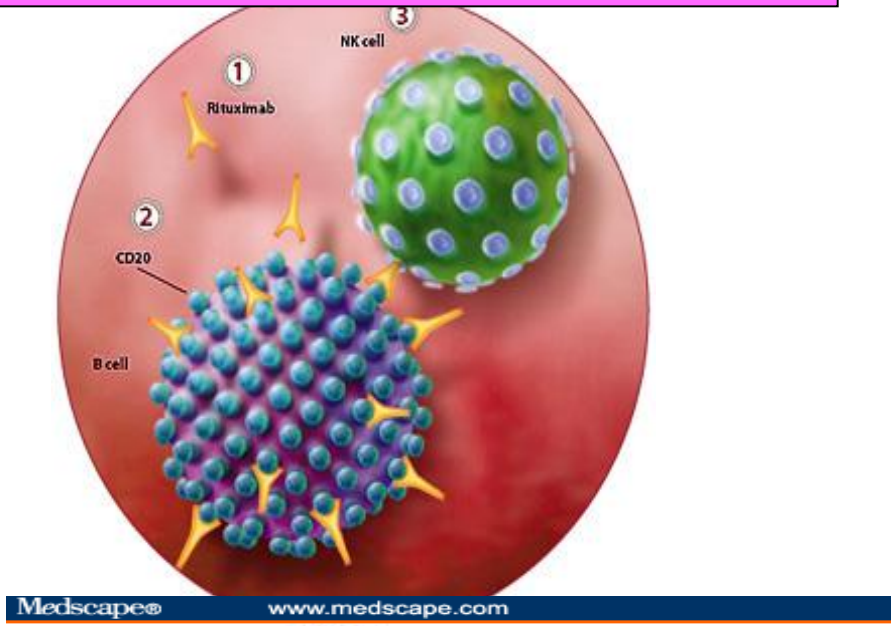
Peter Mundel[1] and Jochen Reiser[1]
[1]Department of Medicine, University of Miami Miller School of Medicine, Miami, Florida, USA

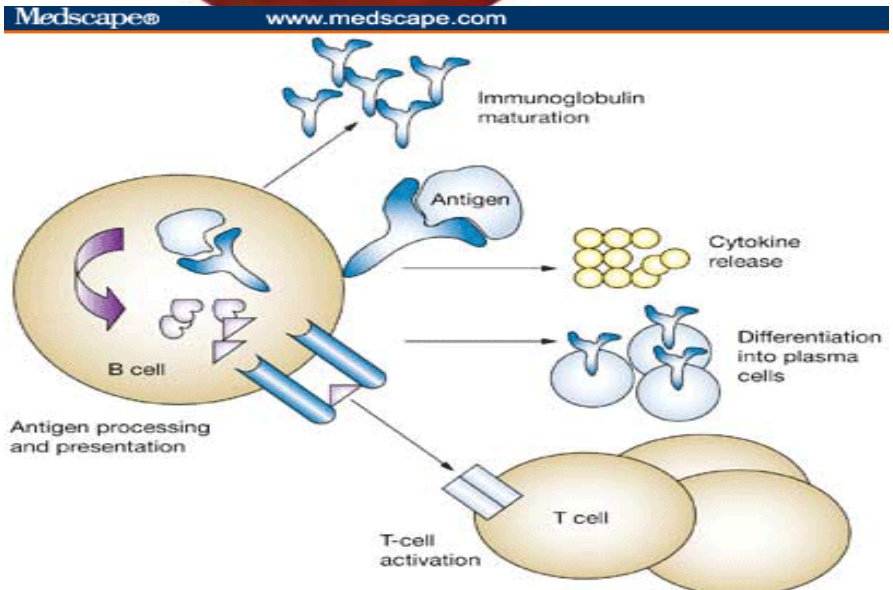


RIFLESSIONE

Non sarebbe utile un farmaco Ciclosporino simile con gli effetti su Sinaptopodina ma SENZA GLI EFFETTI SULLA IL2?

E l'oggetto della controversia, l'anti-CD20 (Rituximab) Il più "on fashion"

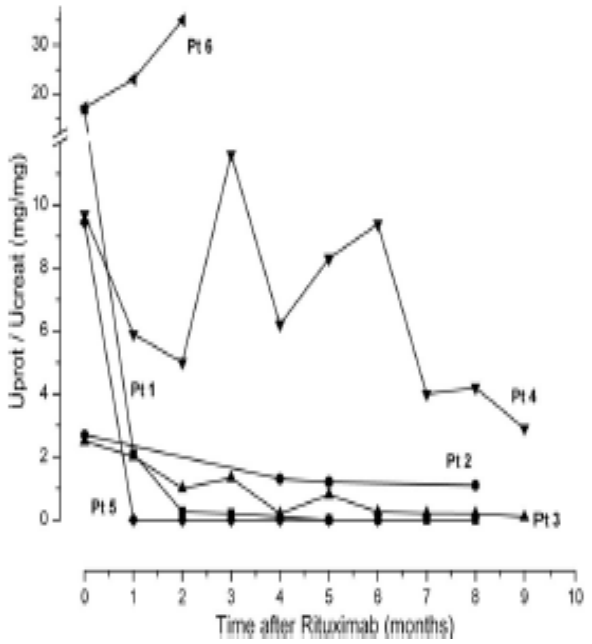




Use of Rituximab in Focal Glomerulosclerosis Relapses After Renal Transplantation

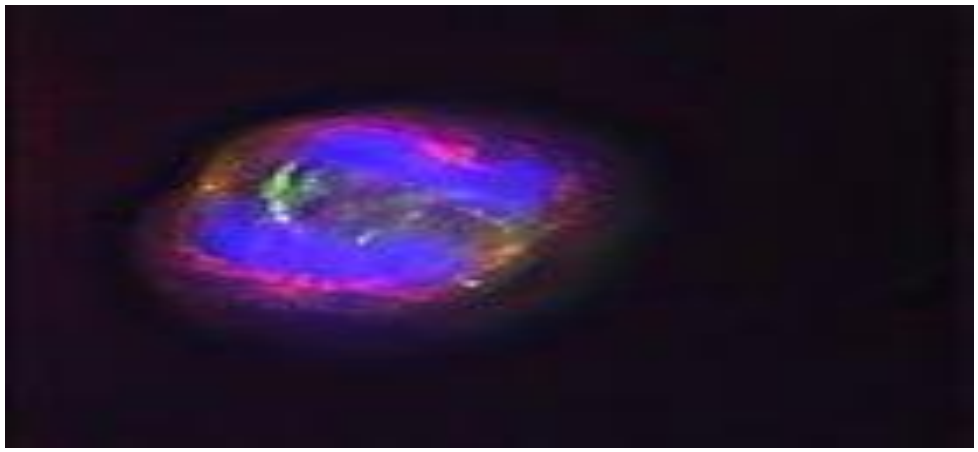
Luca Dello Strologo,[1,5] Isabella Guzzo,[1] Chiara Laurenzi,[1] Marina Vivarelli,[1] Angelica Parodi,[2] Giancarlo Barbano,[2] Roberta Camilla,[3] Floriana Scozzola,[4] Alessandro Amore,[3] Fabrizio Ginevri,[2] and Luisa Murer[4]

(*Transplantation* 2009;88: 417–420)

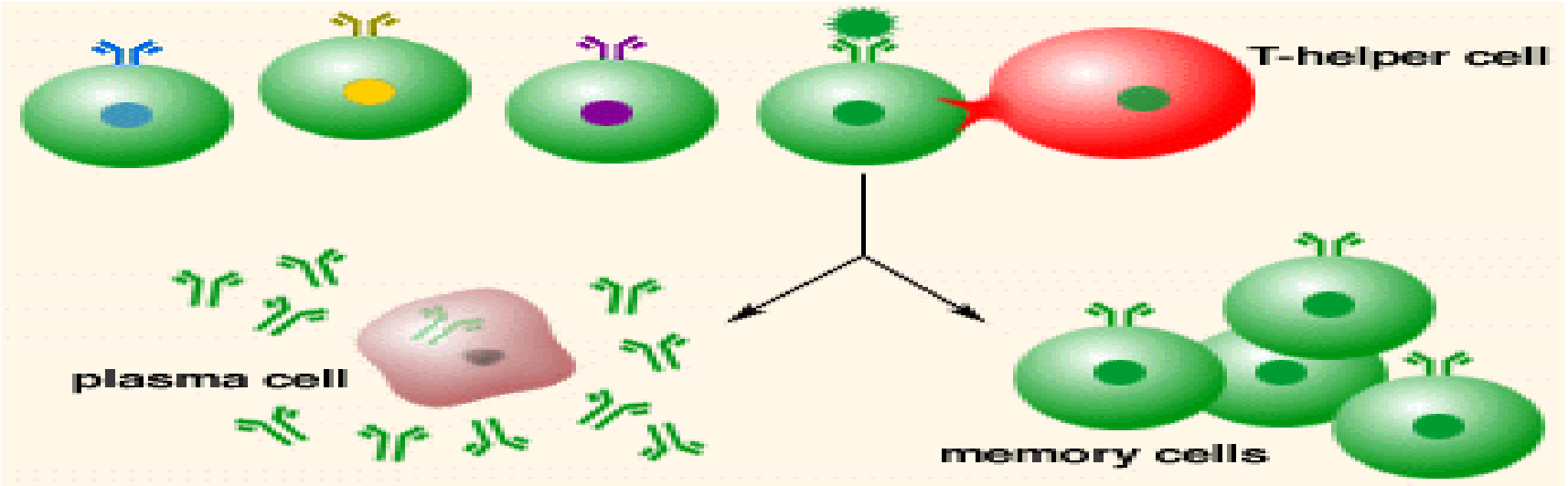


	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age at onset of FSGS (yr)	2.1	3.6	14	2	4.2	5
Age at transplant (yr)	9.4	24.1	26.9	13.4	7.3	12.4
Posttransplant follow-up before relapse (mo)	117.1	0.3	12.6	2.8	0.03	0.03
Glomeruli with global sclerosis pretreatment (%)	NA	5	0	0	0	0
Glomeruli with focal sclerosis pretreatment (%)	NA	32,5	0	15	0	15
Numbers of glomeruli in the specimen	—	40	14	13	14	18
Pretransplant HLA donor antibodies	Negative	Negative	Negative	Negative	Negative	Negative
Delay between relapse and PE (d)	2	867	30	4	1	42
Number of PE sessions	16	17	29	66	10	10
Delay between relapse and rituximab (d)	32	1086	167	242	11	64
Number of rituximab infusions (initial)	2	1	2	2	2	4
GFR before treatment with PE (mL/min/1.73 m^2)	65	116	37	105	10	60
GFR post-rituximab (mL/min/1.73 m^2)	107	110	120	172	105	27
Serum albumin before PE (g/dL)	1.4	3	3.7	3.2	2.4	2.6
Serum albumin post-rituximab (g/dL)	4.1	2.9	3.2	3.2	3.9	2.1
Urine protein over creatinine ratio before PE	17	2	3	7.1	9.5	17
Urine protein over creatinine ratio at start of rituximab	7.2	2.7	2.5	9.7	6.2	17
Urine protein over creatinine ratio post-rituximab	0.1	1.3	0.2	2.3	0	35
Response	Complete	Partial	Complete	Partial	Complete	Failure
Time to response (mo)	2	[illegible]	4	7	<1	
Follow-up post-rituximab (mo)	4	8	9	9	5	2.5

RAZIONALE SOLO NELLE MALATTIE B-MEDIATE (Linfomi, LES, Crio, GN membranosa, etc…)



Linfociti B



Autoimmunity Reviews xxx (2012) xxx–xxx

Contents lists available at SciVerse ScienceDirect

Autoimmunity Reviews

journal homepage: www.elsevier.com/locate/autrev

Review

Rituximab-based novel strategies for the treatment of immune-mediated glomerular diseases

Andrea G. Kattah [a], Fernando C. Fervenza [a], Dario Roccatello [b,*]

[a] Division of Nephrology and Hypertension, Mayo Clinic, Rochester, MN 55905, USA
[b] Department of Rare, Immunologic, Hematologic Diseases and Transfusion Medicine, Research Center of Immunopathology and Rare Diseases (CMID), Giovanni Bosco Hospital and University of Turin, Italy

LUPUS

CRIOGLOBULINEMIA

VASCULITI ANCA-MEDIATE

GN MERMBRANOSA

Identificazione e caratterizzazione
Fattore di permeabilità

Immunoglobulina, frammento di Ig

Non Ig 30-50 kDa

B-amilasi+ 100 kDa glicoproteina fusione pedicelli

emopexina

CLC-2 (cardiotrophine-like citokine 1- IL6 family)

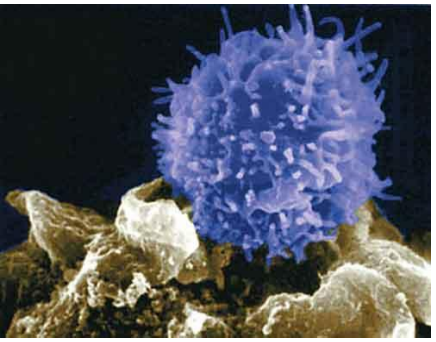
Frammenti di albumina ossidata/apolipoproteine

→ →

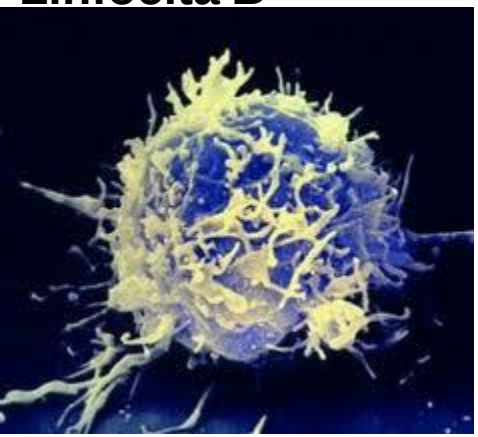
suPAR

FATTORE DI PERMEABILITA’

Linfocita T

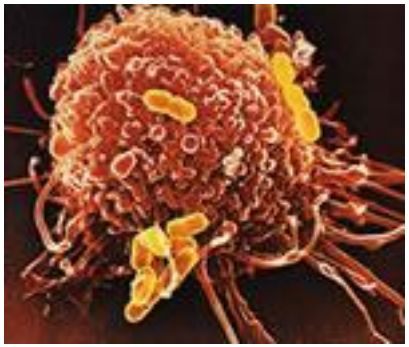


Linfocita B



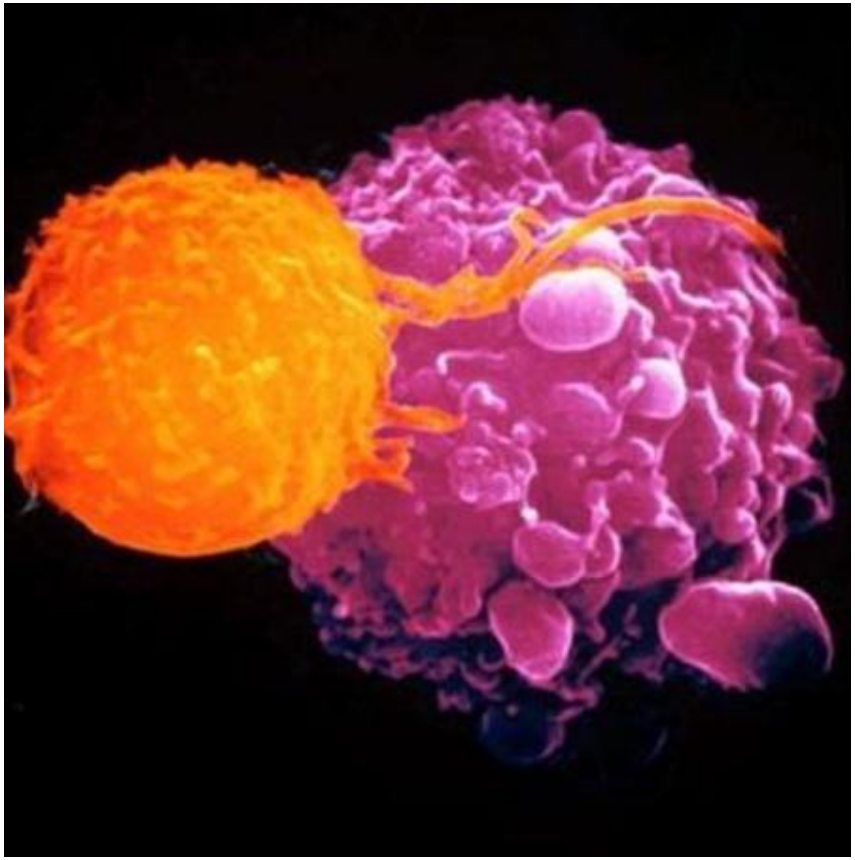
Raramente prodotto da…..

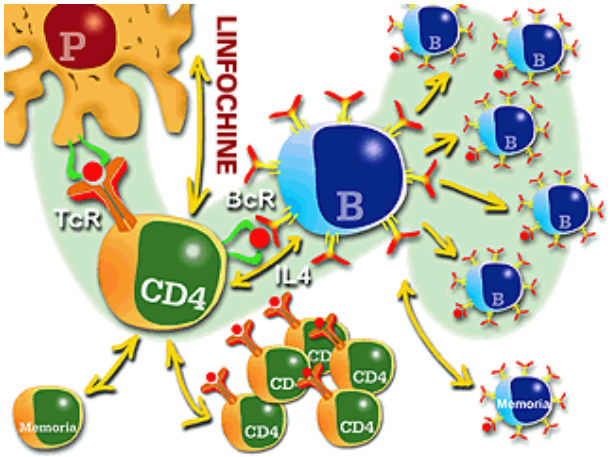
Monociti



Più frequentemente da…

Collaborazione linfociti T e B

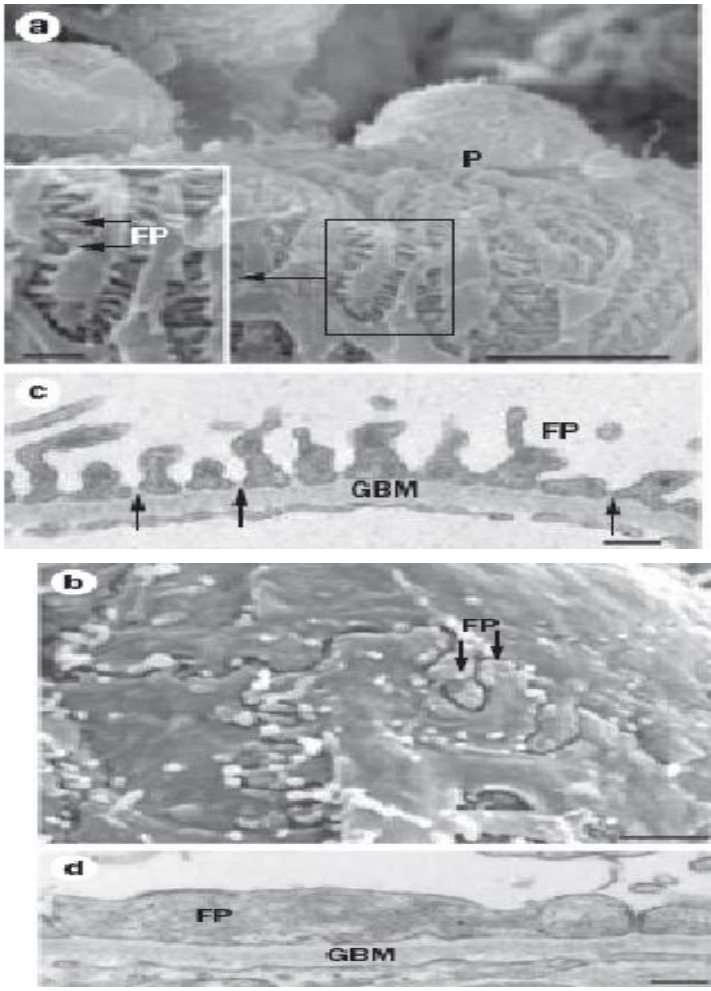




Solo talora frutto del matrimonio linfocita T e B è un fattore tossico per lo slit diaphragm

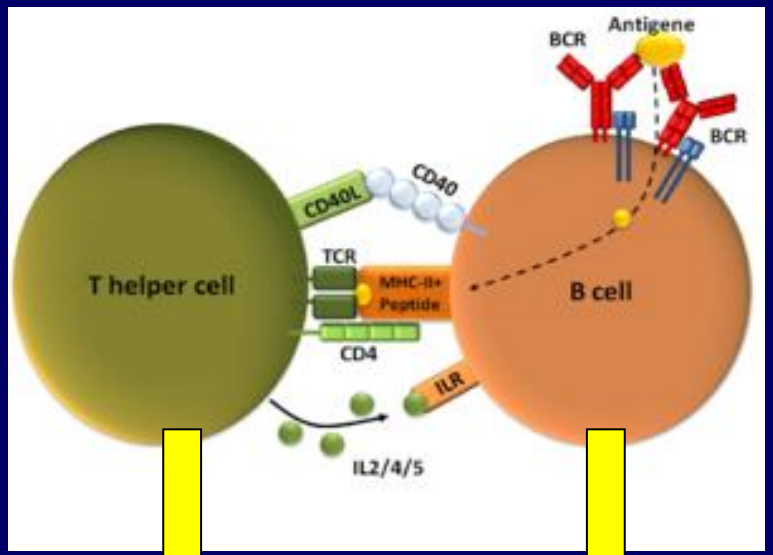
Stimolo

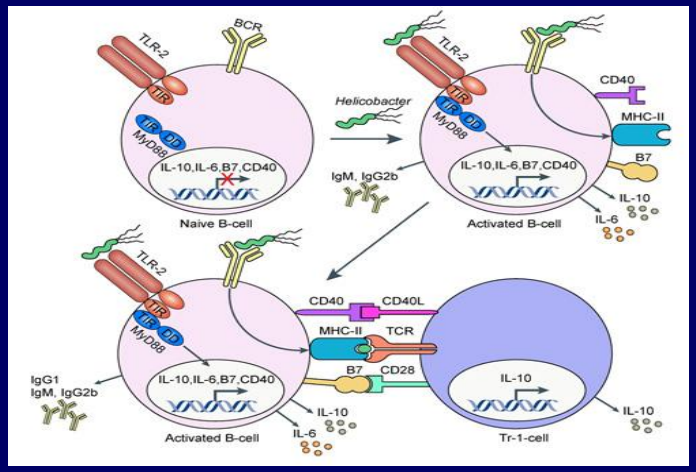
Fattore permeabilità
O
Inibitore fattore permeabilità

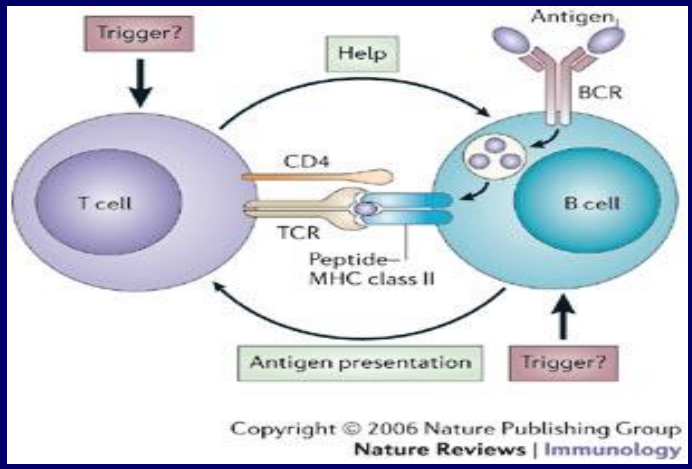


Fusione pedicillare
e alterato slit-diaphragm

Razionale Rituximab:
solo nelle forme in cui il Fattore di Permeabilità è prodotto dai Linfociti B o T

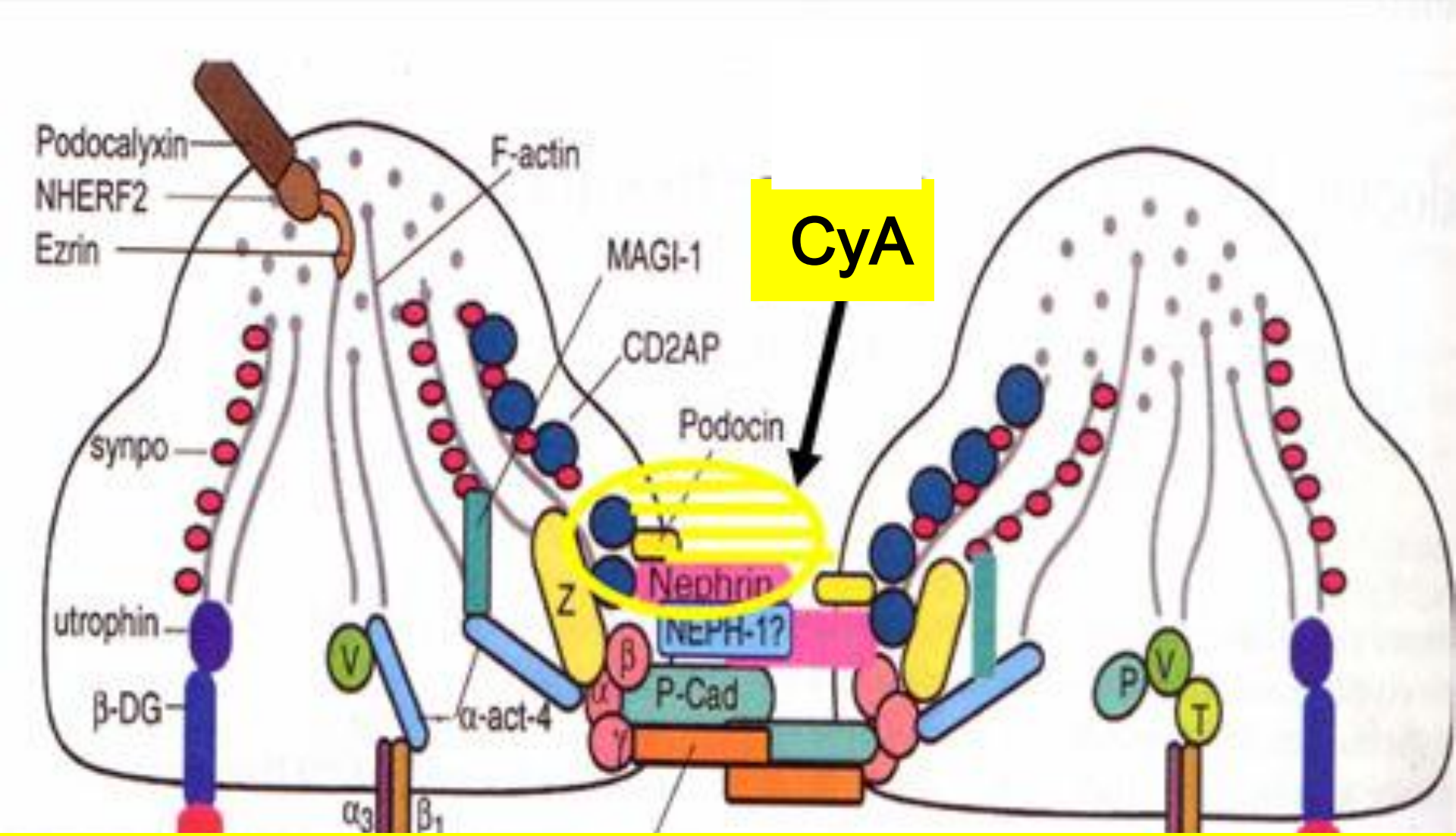






FP **FP**

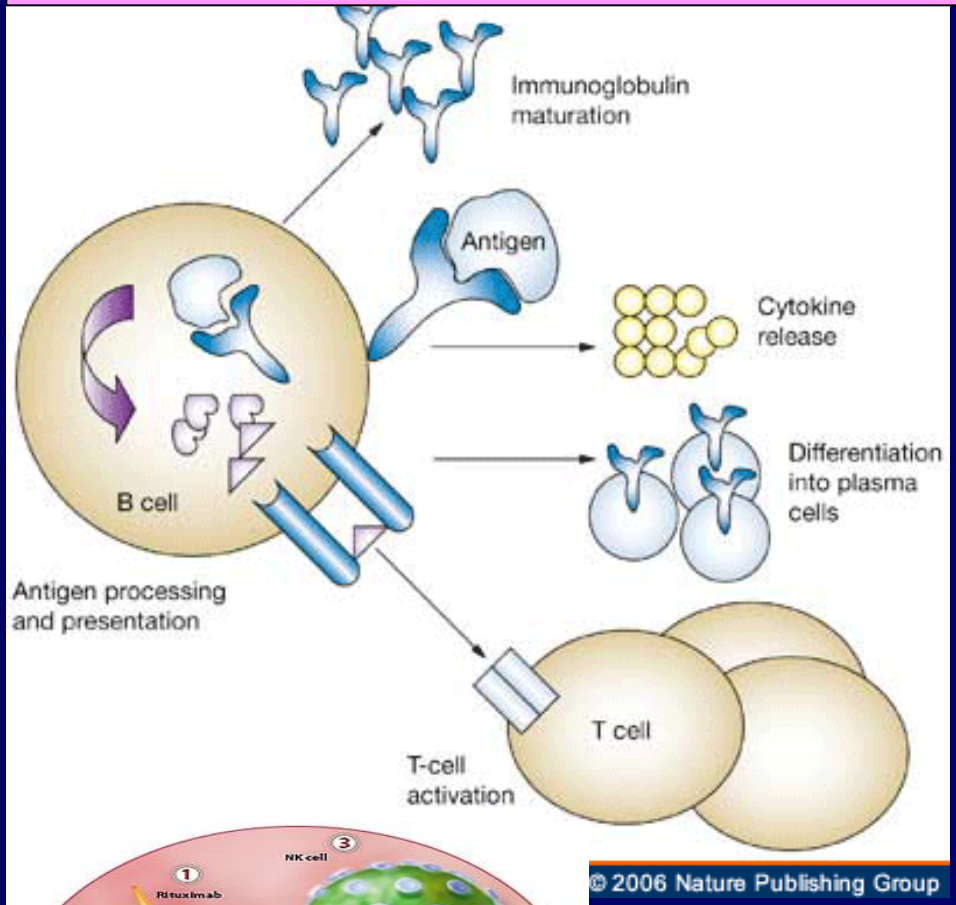
Negli altri casi il Rituximab è come la CyA nella sindrome di Alport

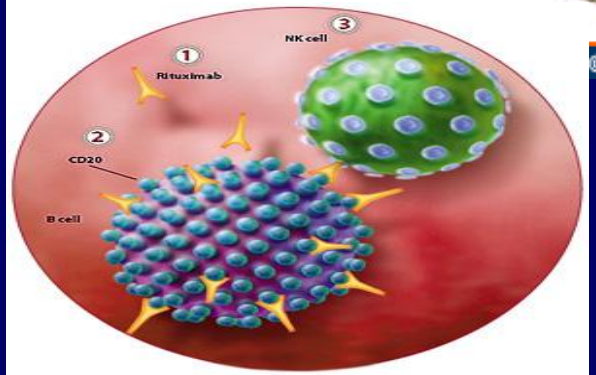


Meyrier's hypothesis:

Cyclosporine is lipophilic and binds to a lipidic complex associated to the slit diaphragm, **stopping the protein leak**

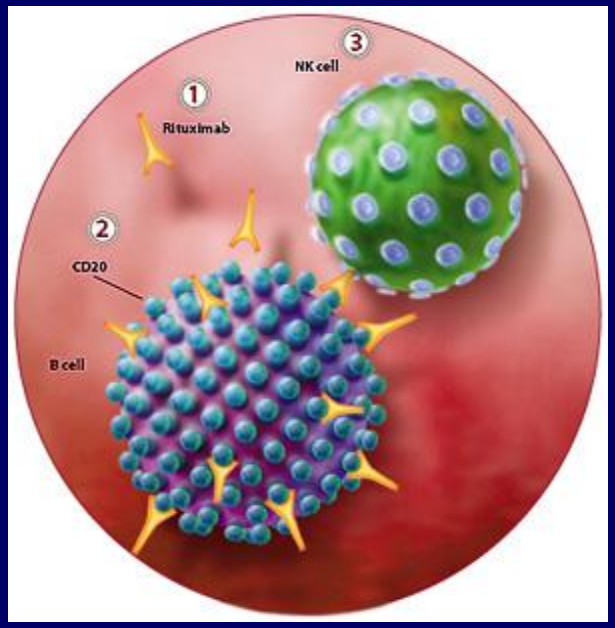
Anche l'anti CD20 in questi casi fa il…….





Tappabuchi

Ma è il solo modo con cui agisce il rituximab?

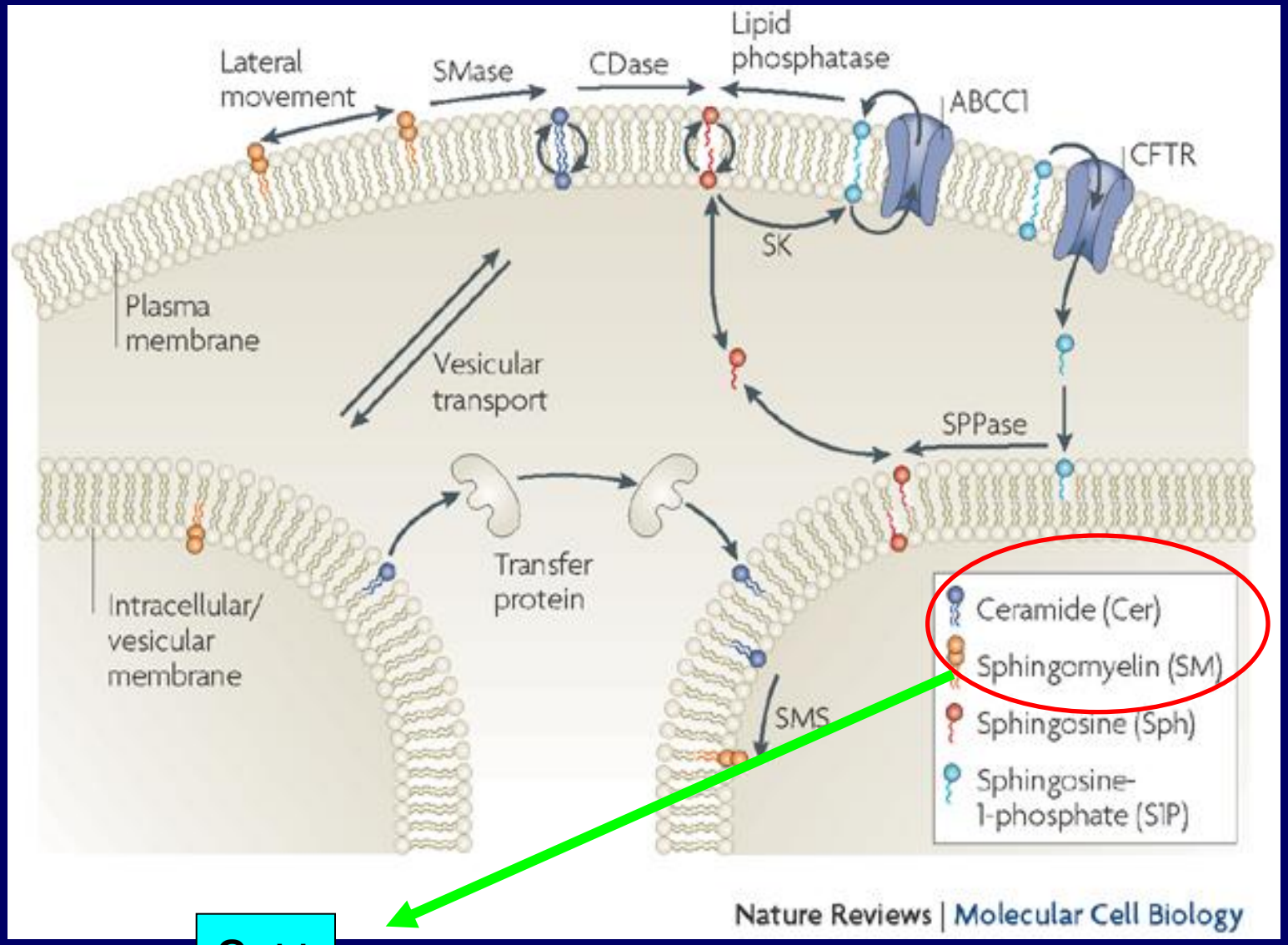


Rituximab targets podocytes in recurrent focal segmental glomerulosclerosis
Fornoni A et al:……
Ajp 2011

Azione sulla
Sfingomielinafosfodiesterasi acida-3b

Azione sulla
Sfingomielinasi ASMase

Rituximab regola Sopravvivenza/apoptosi cellulare



Ca++

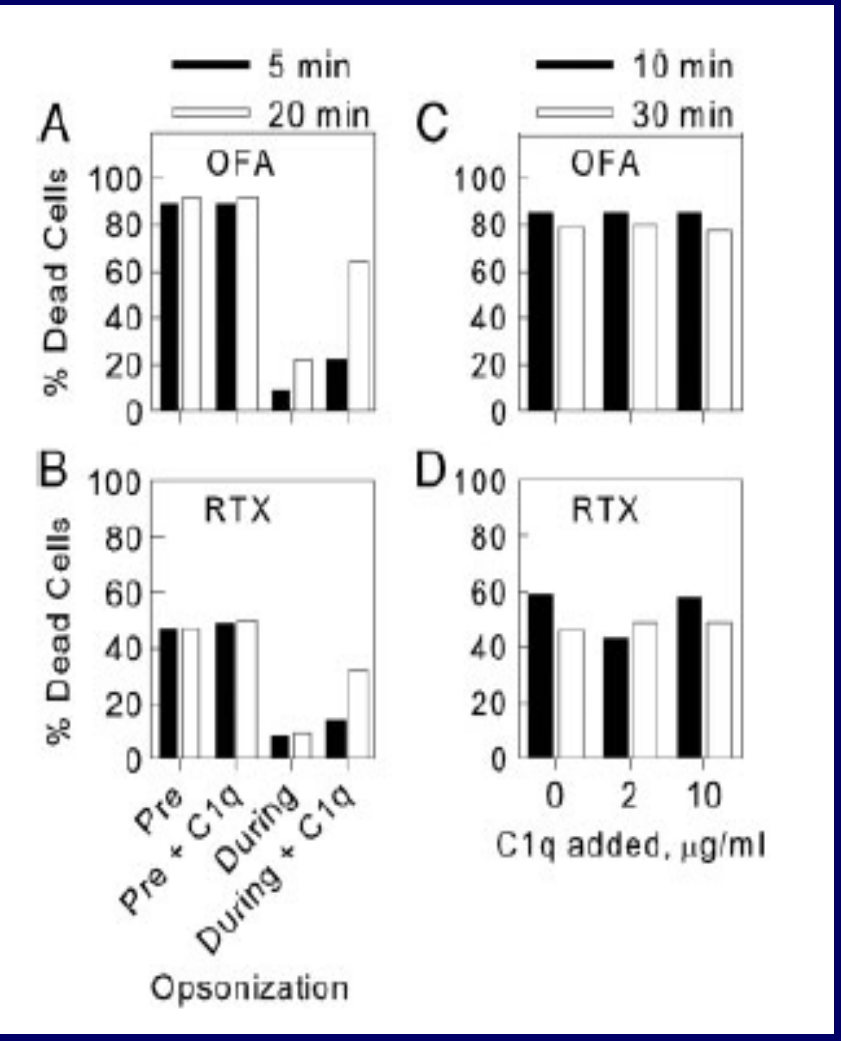
European Journal of Immunology

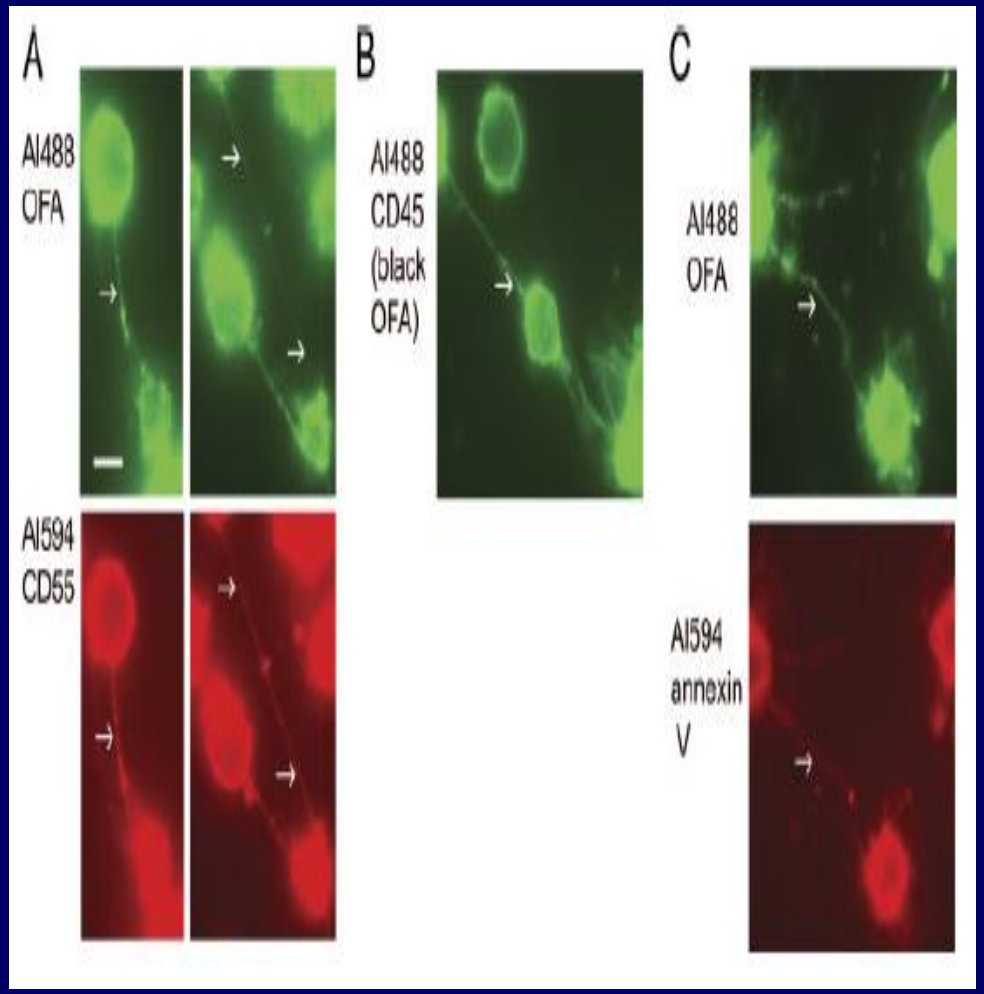
Eur. J. Immunol. 2011. 41: 2436–2446

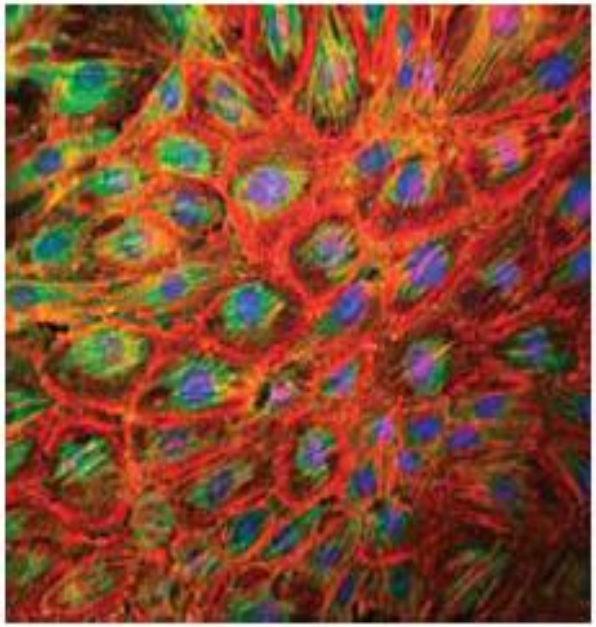
Penetration of antibody-opsonized cells by the membrane attack complex of complement promotes Ca^{2+} influx and induces streamers

Paul V. Beum[1], Margaret A. Lindorfer[1], Elizabeth M. Peek[1], P. Todd Stukenberg[1], Michel de Weers[2], Frank J. Beurskens[2], Paul W. H. I. Parren[2], Jan G. J. van de Winkel[2,3] and Ronald P. Taylor[1]

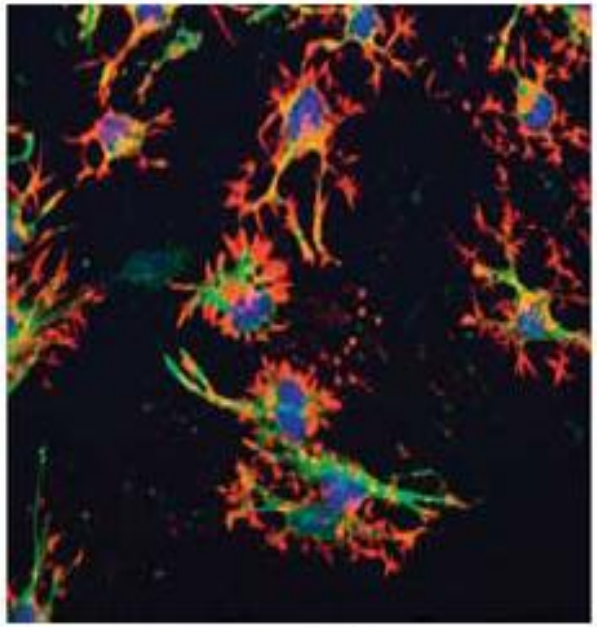
Rituximab e calcio intracellulare
Effetto sulla stabilizzazione del citoscheletro



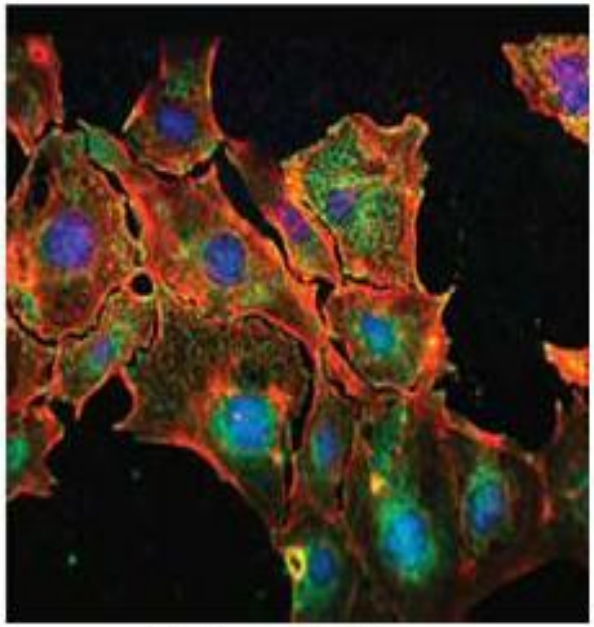




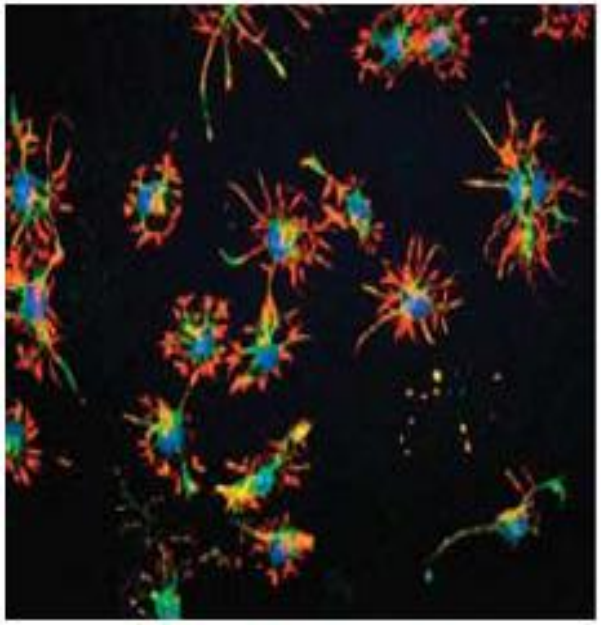
Control



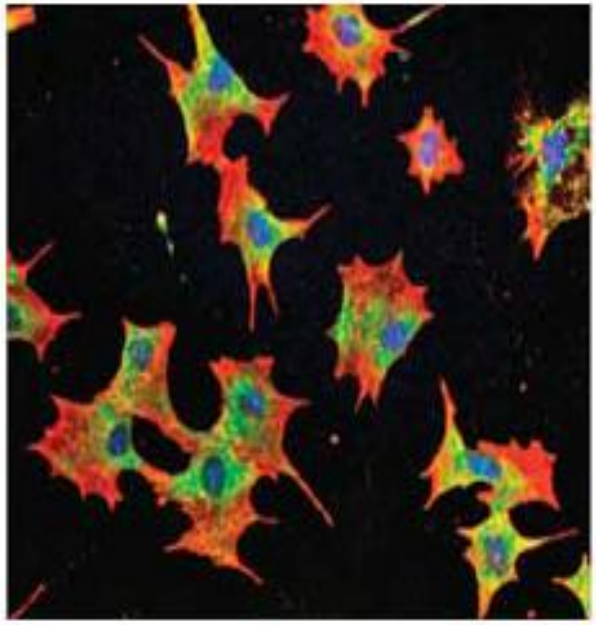
24 h post CD



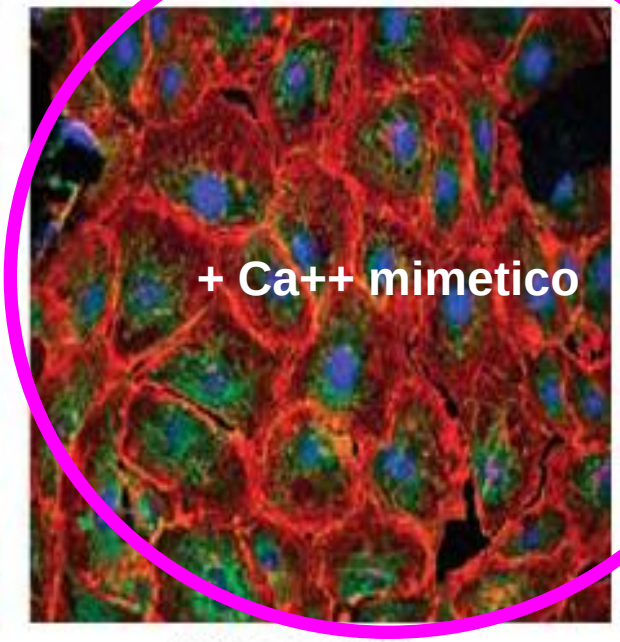
48 h post CD



CD



24 h post CD



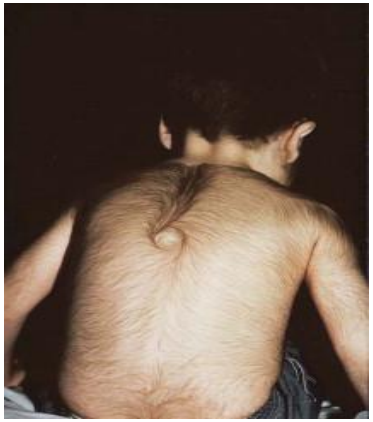
48 h post CD

Riflessione FINALE

Il trattamento con Rituximab è solo empirico…….non ha cambiato il decorsodelle SN “poco responsive alla terapia” o “resistenti”

Senza effetto nelle forme “disperate”

Rituximab ha ridotto la necessità di trattamento con Cya e Steroidi e effetti collaterali, e frequenza di ricadute SOLO NELLE SNSD



A B

Figura 3. (A) Imagen frontal, donde se observa una gruesa capa de tejido gingival que impide la erupción de los incisivos permanentes. (B) Paciente en tratamiento de ortodoncia, 6 meses después de la gingivectomía. Cortesía Dra. A. Pérez.

Al momento la terapia con Rituximab deve essere considerata……..

Il Rituximab ha solo sostituito la Ciclosporina?

Il Rituximab permette veramente di sospendere del tutto STEROIDI E/O CICLOSPORINA?

Per quanti tempo posso continuare a utilizzarlo?

Per quanti tempo posso continuare a utilizzarlo? 1anno? 2 anni? 10 anni? E poi?

E gli effetti collaterali a distanza di 10-20 anni Quali sono?

Gli Ematologi fanno al massino 2-3 cicli….e NOI?

Esiste un marker , se non la sola Steroido-dipendenza, che mi suggerisce di utilizzare RITUXIMAB

Riduce la frequenza di recidive nel trapianto renale ?

Rituximab in Steroid-Resistant Nephrotic Syndrome in Children: A (False) Glimmer of Hope?

Madhura Pradhan and Susan Furth
Division of Nephrology, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

J Am Soc Nephrol 23: 975–978, 2012.
doi: 10.1681/ASN.2012040413

From this study and in the context of prior reports, rituximab may have a role in SDNS and CNI-dependent nephrotic syndrome in reducing exposure to and hence toxicity of these drugs. It may be more effective in reducing proteinuria in children who had prior response to standard therapy and later developed steroid resistance. Although the current trial was powered to only see a large effect in reduction of proteinuria, this trial suggests that, for early treatment-resistant nephrotic syndrome, rituximab therapy is unlikely to be successful. Although rituximab is generally well tolerated, it has serious side effects—mainly infusion-related hypotension, fever and rigors, serious infections, fatal lung fibrosis,[20] and progressive multifocal leukoencephalopathy (http://www.fda.gov/Drugs/DrugSafety). Additionally, it is an expensive treatment, with the cost of 500 mg of rituximab being approximately US$8000. Therefore, clinicians caring for children with treatment resistant nephrotic syndrome should carefully weigh the potential benefits of this treatment until further evidence is available for its efficacy.

Rituximab in Steroid-Resistant Nephrotic Syndrome in Children: A (False) Glimmer of Hope?

Madhura Pradhan and Susan Furth
Division of Nephrology, Department of Pediatrics, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

J Am Soc Nephrol 23: 975–978, 2012.
doi: 10.1681/ASN.2012040413

subjects. The question that remains to be answered is whether rituximab has a role in treatment of SDNS and late-resistant nephrotic syndrome to minimize toxicity of current therapy and improve outcome. Clearly further multicenter randomized controlled trials are necessary to further define the role of rituximab in nephrotic syndrome in children and to adequately test new therapies in the treatment of this frustrating disease, whose treatment continues to elude pediatric nephrologists and their affected patients.

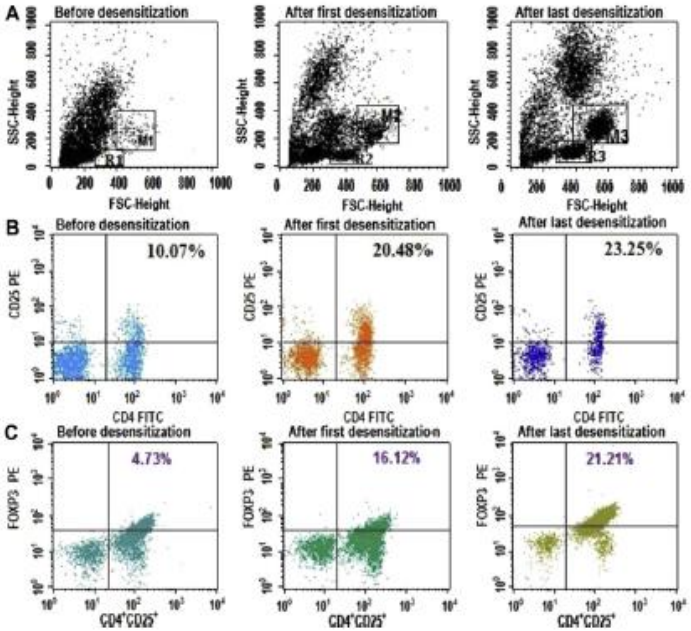
Letter to the Editor

Successful rapid rituximab desensitization in an adolescent patient with nephrotic syndrome: Increase in number of Treg cells after desensitization

syndrome (NS) for 4 years. The patient developed pruritic papular urticarial eruptions, angioedema, throat tightness, cough, nausea, vomiting, abdominal pain, and tachycardia at 90th minute of infusion of rituximab (MabThera 500 mg/50 mL; F. Hoffmann-La Roche Ltd, Basel, Switzerland) when 180 mg of the drug had been

Metin Aydogan, MD[a]
Nail Yologlu, MD[a]
Gulcin Gucar, PhD[b]
Zeynep Seda Uyan, MD[c]
Isil Eser, MD[a]
Erdal Karaoz, PhD[b]

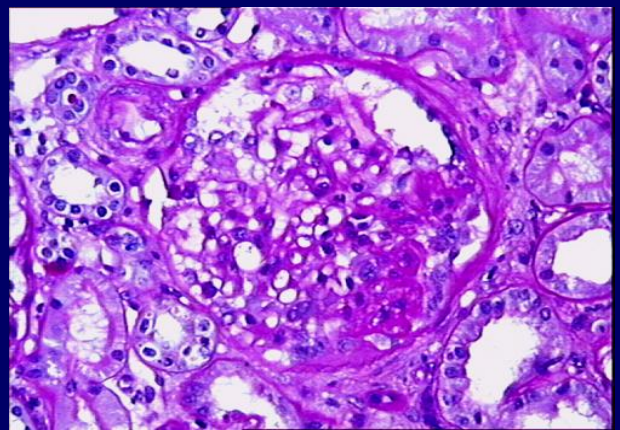
J ALLERGY CLIN IMMUNOL
2013

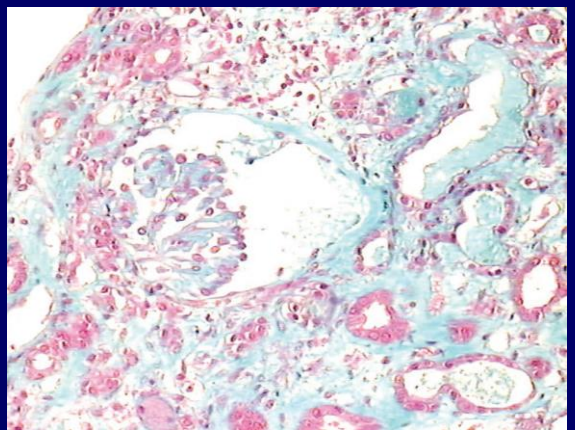


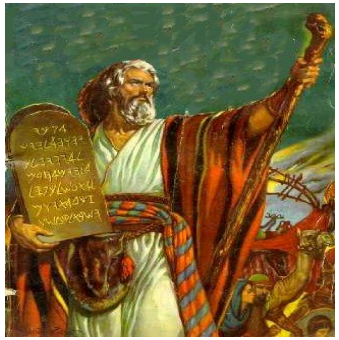
RIFLESSIONE CONCLUSIVA

Innamorati del tuo lavoro…studia…ricerca…
Fallo seriamente…..e fanne quasi una ragione di vita……

E solo cosi potremmo sconvincere malattie come







Ma soprattutto datti delle regole