

EUROMENE WG 2 Biomarker

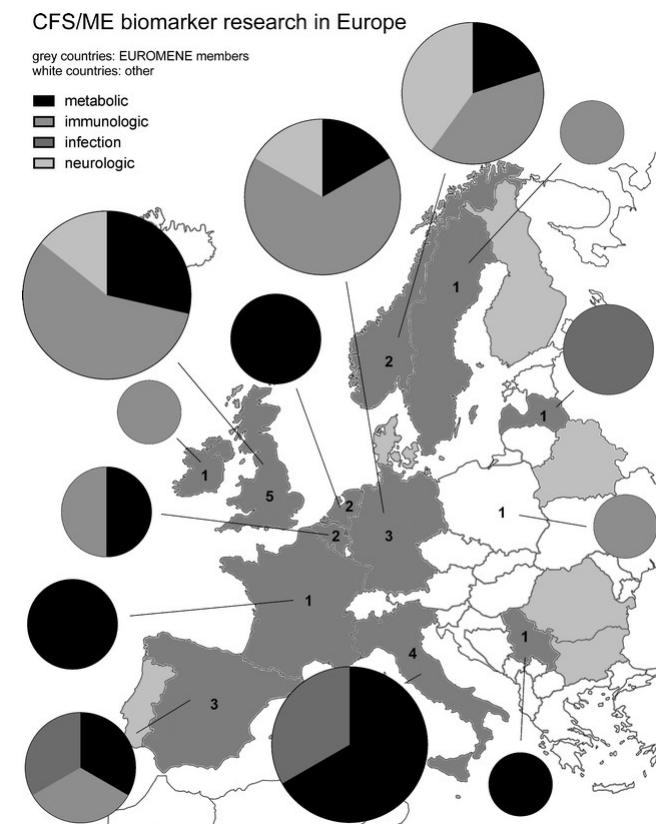
Achievement M12 Survey on biomarker „European biomarker landscape“

REVIEW

The European ME/CFS Biomarker Landscape project: an initiative of the European network EUROMENE

Carmen Scheibenbogen, Helma Freitag, Julià Blanco, Enrica Capelli, Eliana Lacerda, Jerome Authier, Mira Meeus, Jesus Castro Marrero, Zaiga Nora-Krukla, Elisa Oltra, Elin Bolle Strand, Evelina Shikova, Slobodan Sekulic and Modra Murovska

Journal of Translational Medicine 2017 **15**:162,
published on: 26 July 2017





EUROMENE WG 2 Biomarker

Current work in progress

- Identify biomarker of interest to confirm in cohort studies
- Write reviews



EUROMENE WG 2 Biomarker

Reviews on selected topics

- Autoimmune markers (Franzi, Carmen, Enrica, Julia, Jesus, Modra) Autoimmune Review, Januar 2018 in press
- Persistent infection markers (Zaiga, Santa, Thomas, Bhupesh, Evelina)
- Metabolic (Jesus, Jonas,)
- Immune phenotype markers (Julia)



EUROMENE WG 2 on biomarkers

Work plan draft for the GP3 (1st May, 2018 – 30 April, 2019)

- Survey in EU countries existing data on (infection-associated) biomarkers; evaluate neurological symptoms associated with ME/CFS and usability in diagnostic.
- Discuss and analyze the existing data on biomarkers usable in laboratory and objective clinical diagnostic of ME/CFS.
- Promote synchronization of biomarker panels and interpretation.



EUROMENE WG2 meeting – Sofia 8.2.18

Agenda

- Introduction 11:20 – 11:40
- Presentations 11:40 – 12:40 (15+5min)
 - Santa Rasa Persistent viral infections (HHV-6, HHV-7 and B19) in ME/CFS
 - Bhupesh Prusty Mitochondrial modulation by HHV-6: Possible pathogenic link to ME/CFS
 - Ruud Vermeulen The cardiopulmonary exercise test in CFS/ME
- Lunch 13:00 – 14:00
- 14:00 – 15:30 Reviews on selected topics
- 15:15 – 16:00 Identify biomarker of interest to confirm in small/larger cohort studies
- 16:00 – 16:30 Develop a roadmap for digitalisation and big data capabilities

Rituximab in ME/CFS



RituxME study

- n= 151 patients (CCC criteria) multicenter
- randomized 1:1 Rituximab 500mg fixed or placebo x 6
- 90% patients received all 6 infusions
- In both arms mostly late, slowly increasing and transient improvements
- Study is negative for Rituximab

Fluge et al, unpublished



Rituximab in ME/CFS



RESEARCH ARTICLE

B-Lymphocyte Depletion in Myalgic Encephalopathy/ Chronic Fatigue Syndrome. An Open-Label Phase II Study with Rituximab Maintenance Treatment

Øystein Fluge^{1*}, Kristin Risa¹, Sigrid Lunde¹, Kine Alme¹, Ingrid Gurvin Rekeland¹, Dipak Sapkota^{1,2}, Einar Kleboe Kristoffersen^{3,4}, Kari Sørland¹, Ove Bruland^{1,5}, Olav Dahl^{1,4}, Olav Mella^{1,4*}

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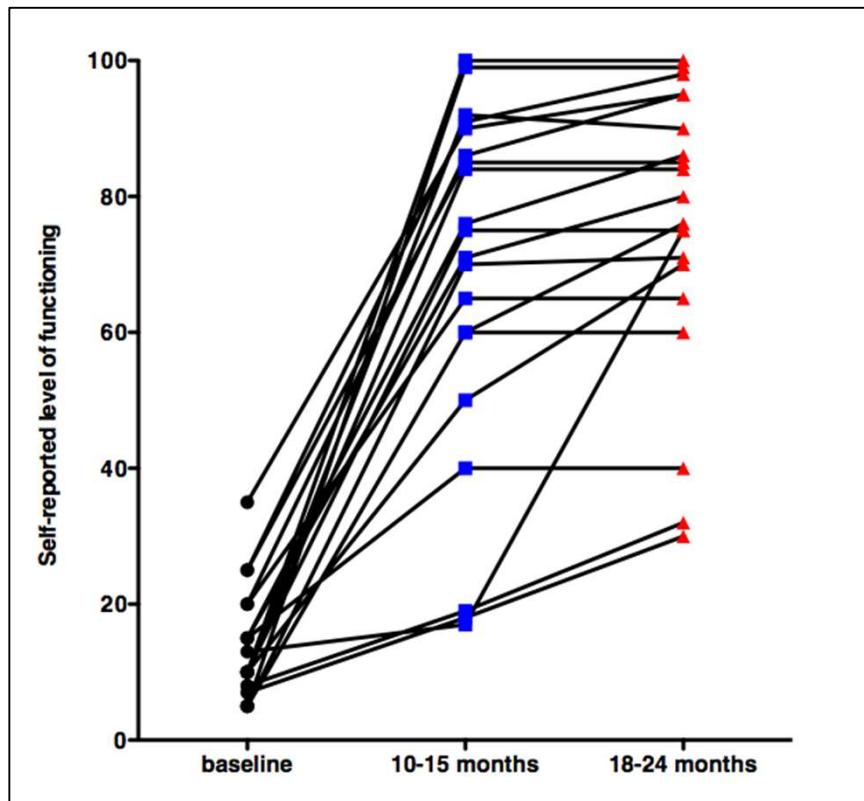


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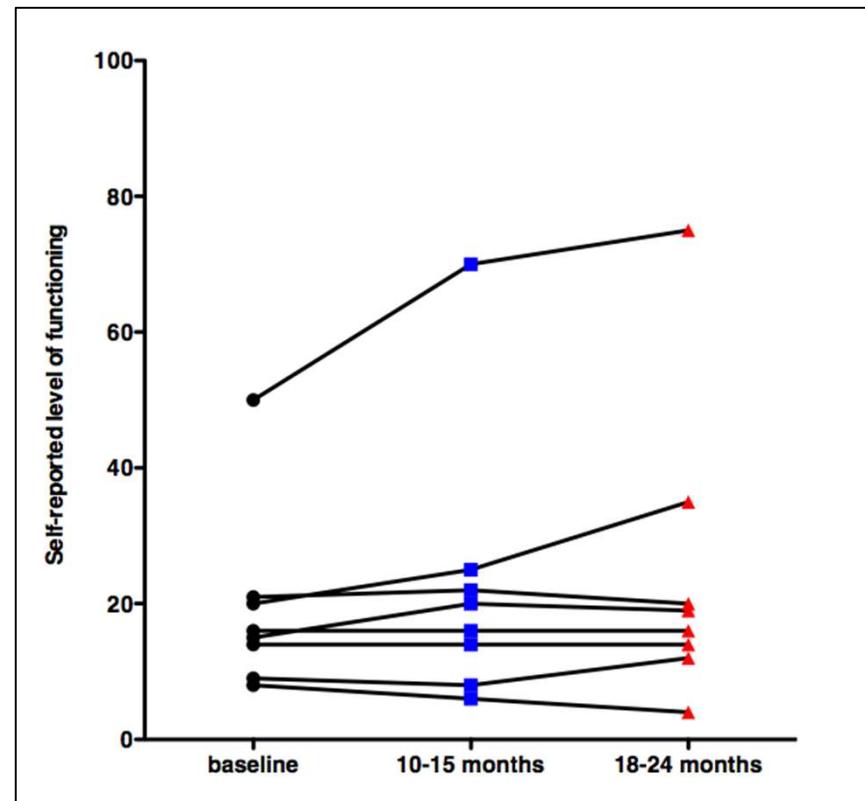
Fluge et al, PlosOne 2015

Rituximab study KTS-2 500mg/m² months 1 (2x) 3, 6, 10, 15

Rituximab effective n=18

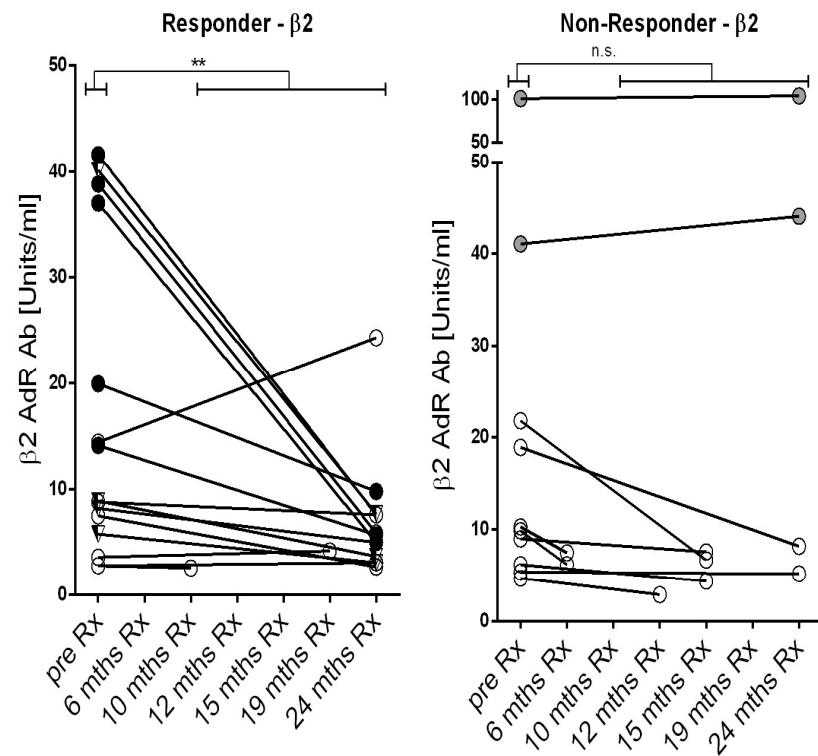


Rituximab not effective n=11

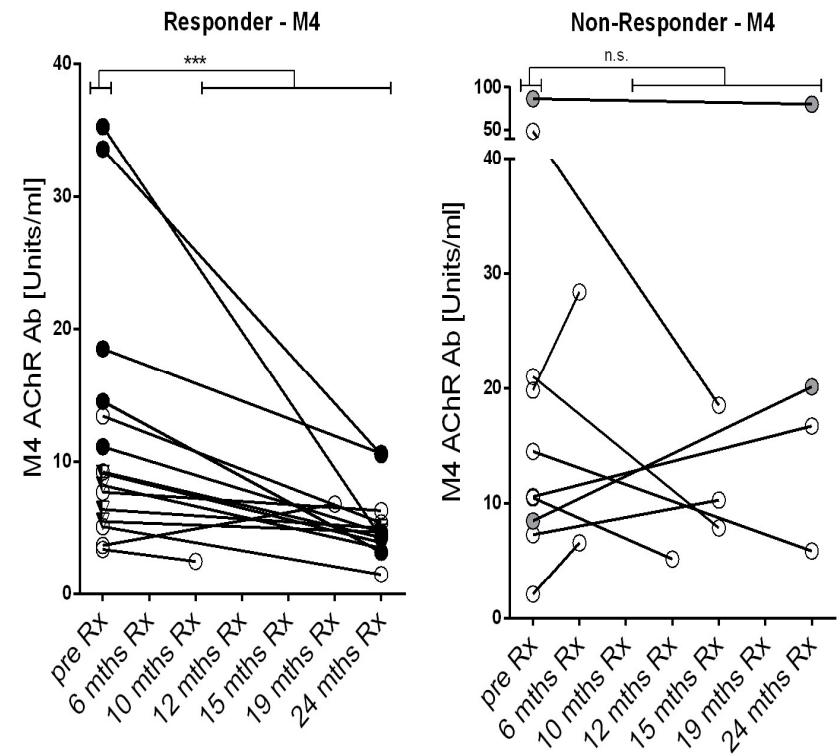


KTS-2 Autoantibodies normalised after treatment with rituximab

$\beta 2$



M4





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- Lunch 13:00 – 14:00



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14:00 – 15:30 Reviews on selected topics (15 min each)

- Franziska Sotzny Autoimmune markers
- Jesus Castro Metabolism
- Thomas Harrer Chronic Enterovirus infection
- Julia Blanco Immune cell alterations
- Jerome Authier Survey on Neuro-imaging in Europe



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15:15 – 16:00 Identify biomarker of interest to confirm in small/larger cohort studies

Objective: Development of a panel to allow synergistic use of individual biomarker depositories towards a common biomarker factory, supporting digitalisation in biomarker deployment and big data role in ME/CFS research.

Deliverables:

- Discuss and analyze the existing data on biomarkers usable in laboratory and objective clinical diagnostic of ME/CFS.
- Promote synchronization of biomarker panels and interpretation.

Charité Data- and Biobank

Clinical data	Questionnaires	Lab values	Biomarker	Genetic
f/m	Bell	CK/LDH	IgI/MBL	
age	Chalder	Ferritin, MCHC	M/ β antibodies	
Date and type of disease onset	SF-36	T cell activation		
Susceptibility to infections	Symptom Score (CCC)	TNF		
Allergies	COMPASS-31	IgE		
Heart rate, POTS		ANA/TPO		





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