Drug Development in Pediatric Systemic Lupus Erythematosus (Childhood-Onset SLE): FDA Perspective

Accelerating Product Development for Pediatric SLE
July 30, 2026

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Outline

- Background on pediatric SLE workshop
  - Success of extrapolation of efficacy in pJIA & JPsA
- Drug development in pediatric SLE
  - Previous programs have required efficacy studies
  - Belimumab experience
    - Randomized, placebo-controlled, parallel group study
    - Bayesian analysis
- Goal of this workshop

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JIA Workshop, October 2019

"Accelerating Drug Development for Polyarticular Juvenile Idiopathic Arthritis (pJIA)"

- Collaborative workshop hosted by the University of Maryland Center of Excellence in Regulatory Science and Innovation (M-CERSI) and the FDA
- Goals and objectives:
  - To address current barriers to expeditious pJIA drug development and steps to overcome them
  - Specific topics included trial design considerations, dose selection, modeling and simulation, extrapolation, and level of evidence required to establish safety and effectiveness in pediatric patients with pJIA

https://cersi.umd.edu/accelerating-drug-development-polyarticular-juvenile-idiopathic-arthritis-pjia

Efficacy Extrapolation in pJIA & JPsA

- 4 products in pJIA approved using an extrapolation approach
  - Sarilumab (2024), certolizumab pegol (2024), upadacitinib (2024), IV golimumab (2020)

- 11 products in JPsA approved using an extrapolation approach
  - Risankizumab (2026), apremilast & apremilast XR (2025), guselkumab (2025), tofacitinib (2025), upadacitinib (2024), etanercept (2023), abatacept (2023), secukinumab (2022), ustekinumab (2022), IV golimumab (2020)

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Pediatric Drug Development

- Pediatric Research Equity Act (PREA) is mandatory
  - Requires companies to assess the safety and effectiveness of certain new drugs or biologics in children
- To initiate pediatric studies, evidence is needed to support a prospect of direct benefit to justify the risks of exposing children
  - Usually during adult development; ideally along with phase 3 in adults
  - Assumes some degree of extrapolation
- Efficacy and benefit-risk of a new product are generally established first in adults
  - This generates prior knowledge to support the consideration of extrapolation to pediatric patients

Belimumab Experience

- **Mechanism of action**: B-lymphocyte stimulator (BLyS)-specific inhibitor
- **Previously approved indications**
  - Active SLE in adults in **2011** (IV) and **2017** (SC)
  - Active LN in adults (IV, SC) in **2020**
  - Active SLE in patients ≥5 years receiving standard therapy in **2019** (IV) and in **2024** (SC*)
  - Active LN in patients ≥5 years receiving standard therapy in **2022** (IV) and in **2025** (SC*)

- **Dosage for pediatric patients**
  - ≥ 40kg: use adult dosing for autoinjector (AI)
  - 15 to < 40kg:
    - SLE: 200mg every 2 weeks
    - LN: 200mg once weekly for 4 doses, then 200mg every 2 weeks

*SC formulation in pediatrics is autoinjector (AI) only

Belimumab Clinical Trials

Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
BEL114055 (C1109) 52-week	MC, R, DB, PC PK, safety and efficacy	93 pSLE subjects 5 to 17 yo (SELENA/SLEDAI score ≥6)	• Belimumab 10 mg/kg • Placebo	SRI-4 at Week 52

Pediatric Response Rate at Week 52[a]

Response	Placebo (n = 40)	BENLYSTA 10 mg/kg (n = 53)
SLE Responder Index	44%	53%
Odds Ratio (95% CI) vs. Placebo		1.49 (0.64, 3.46)
Components of SLE Responder Index		
Percent of patients with reduction in SELENA-SLEDAI ≥4	44%	55%
Percent of patients with no worsening by BILAG index	62%	74%
Percent of patients with no worsening by PGA	67%	76%
Other endpoints		
SRI-6 using SELENA SLEDAI ≥6-point reduction	34%	41%
Proportion of subjects with a sustained SRI response	41%	43%

[a] Based on a non-powered trial.

Belimumab Clinical Trials

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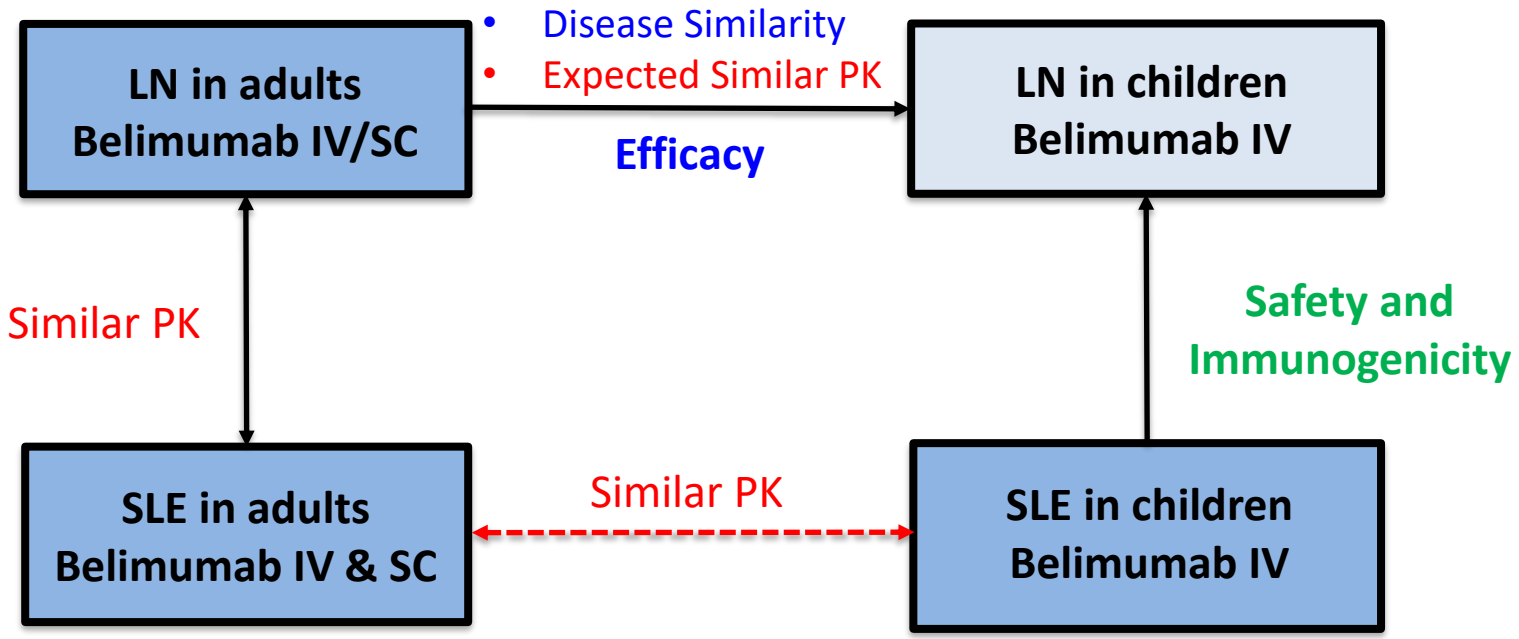
Belimumab IV for Pediatric LN: PK-based Extrapolation of Efficacy



- Approval based on extrapolation of efficacy from belimumab IV in adults and further supported by efficacy from belimumab IV in children with SLE
- Safety leveraged from belimumab IV in children with SLE

Pediatric SLE & LN Development

- **Anifrolumab** (approved SLE in 2021)
  - BLOSSOM: Randomized, double-blind, placebo-controlled study of IV anifrolumab to treat SLE in participants 5 to < 18 years old (NCT05835310)
- **Voclosporin** (approved LN in 2021)
  - VOCAL: Double-blind, placebo-controlled, dose escalation study of voclosporin in addition to standard therapy in patients 12 to 17 years old with active LN (NCT05288855)
  - Renal response at Week 24
- **Obinutuzumab** (approved LN in 2025)
  - POSTERITY: Phase 2, randomized, double-blind, placebo-controlled study in patients with biopsy-confirmed proliferative (class III/IV) LN ages 12 to < 18 years old (n=30)
  - OL safety and PK in participants ages 5 to < 12 years old with LN (NCT05039619)

Information available at www.clinicaltrials.gov

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Extrapolation of Efficacy

Disease/response "similarity" is a continuum

Different	Dissimilar	Similar	Same
No overlap between adult and pediatric condition	Some degree of overlap with significant differences between adult and pediatric condition	Large degree of overlap with some differences between adult and pediatric condition	Significant overlap; no known significant differences between adult and pediatric condition

Increasing relevance of adult information to pediatric population with increasing confidence in similarity between adult and pediatric condition

Pediatric RCT(s) → Bridging biomarker, Bayesian borrowing, etc. → Exposure matching

2019 CERSI Workshop: Accelerating Drug Development for Polyarticular Juvenile Idiopathic Arthritis (pJIA) - 10/02/2019 - 10/02/2019 | FDA

Schanberg LE, Mulugata L, Akinlade B, et al. *Arthritis Rheum*. 2023; 75(10): 1856-1866.

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Goals for the pSLE Workshop

- How can we best advance drug development in pediatric SLE and best serve pediatric SLE patients?
- Can we address the uncertainties regarding the differences in the adult and pediatric SLE populations?
- If we do need additional efficacy data in pediatric SLE, what is the best path to achieve that?


Questions
THANK YOU


FDA
U.S. FOOD & DRUG
ADMINISTRATION

Back-Up Slides

Belimumab USPI Highlights

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use BENLYSTA safely and effectively. See full prescribing information for BENLYSTA.

BENLYSTA (belimumab) for injection, for intravenous use
BENLYSTA (belimumab) injection, for subcutaneous use
Initial U.S. Approval: 2011

----------RECENT MAJOR CHANGES----------

Dosage and Administration (2.3, 2.4) 6/2025

---------- INDICATIONS AND USAGE----------

BENLYSTA is a B-lymphocyte stimulator (BLyS)-specific inhibitor indicated for the treatment of patients 5 years of age and older with:

- Active systemic lupus erythematosus (SLE) who are receiving standard therapy; (1)
- Active lupus nephritis who are receiving standard therapy. (1)

Limitations of Use:
The efficacy of BENLYSTA has not been evaluated in patients with severe active central nervous system lupus. Use of BENLYSTA is not recommended in this situation. (1)

----------DOSAGE AND ADMINISTRATION----------

- See Full Prescribing Information for complete preparation and administration information. (2.1, 2.2, 2.3)
- Intravenous dosage for active SLE or lupus nephritis:
  - 10 mg/kg at 2-week intervals for the first 3 doses and at 4-week intervals thereafter.
  - Reconstitute, dilute, and administer as an intravenous infusion over a period of 1 hour. (2.2)
  - Consider prophylactic premedication for infusion reactions and hypersensitivity reactions. (2.1, 2.2)
- Subcutaneous dosage for active SLE or lupus nephritis: (2.3)

Indication	Adults (Autoinjector or Prefilled Syringe)	Pediatric Patients 5 Years of Age and Older (Weight-Based Dosing) (Autoinjector Only)[a]
Active SLE	200 mg once weekly	• ≥40 kg: 200 mg once weekly • 15 kg to less than 40 kg: 200 mg once **every 2 weeks**
Active Lupus Nephritis	400 mg[b] once weekly for 4 doses, followed by 200 mg once weekly	• ≥40 kg: 400 mg[b] once weekly for 4 doses, followed by 200 mg once weekly • 15 kg to less than 40 kg: 200 mg once weekly for 4 doses, followed by 200 mg once **every 2 weeks**

[a] Prefilled syringe has not been studied in children less than 18 years of age.
[b] The 400-mg dose requires administration of two 200-mg injections.

---------- DOSAGE FORMS AND STRENGTHS----------

- Intravenous Infusion (for injection): 120 mg or 400 mg of belimumab lyophilized powder in single-dose vial for reconstitution and dilution prior to intravenous infusion. (3)
- Subcutaneous Injection (injection): 200 mg/mL of belimumab in single-dose prefilled autoinjector or single-dose prefilled syringe. (3)

---------- CONTRAINDICATIONS ----------

Previous anaphylaxis to belimumab. (4)

---------- WARNINGS AND PRECAUTIONS ----------

- Serious Infections: Serious and sometimes fatal infections have occurred in patients receiving immunosuppressive agents, including BENLYSTA. Use with caution in patients with severe or chronic infections. Consider interrupting therapy with BENLYSTA if patients develop a new infection during treatment with BENLYSTA. (5.1)
- Progressive Multifocal Leukoencephalopathy (PML): Evaluate patients with new-onset or deteriorating neurological signs and symptoms for PML. If PML is suspected, immunosuppressant therapy, including BENLYSTA, must be suspended until PML has been excluded. If PML is confirmed, immunosuppressant therapy, including BENLYSTA, must be discontinued. (5.1)
- Hypersensitivity Reactions, including Anaphylaxis: Serious and fatal reactions have been reported. (5.2)
- Depression and Suicidality: Depression and suicidality were reported in trials with BENLYSTA. Assess for depression and risk of suicide before treatment with BENLYSTA and monitor during treatment. Instruct patients to contact their healthcare provider if new or worsening depression, suicidal thoughts, or other mood changes occur. (5.3)
- Immunization: Live vaccines should not be given concurrently with BENLYSTA. (5.5)

---------- ADVERSE REACTIONS ----------

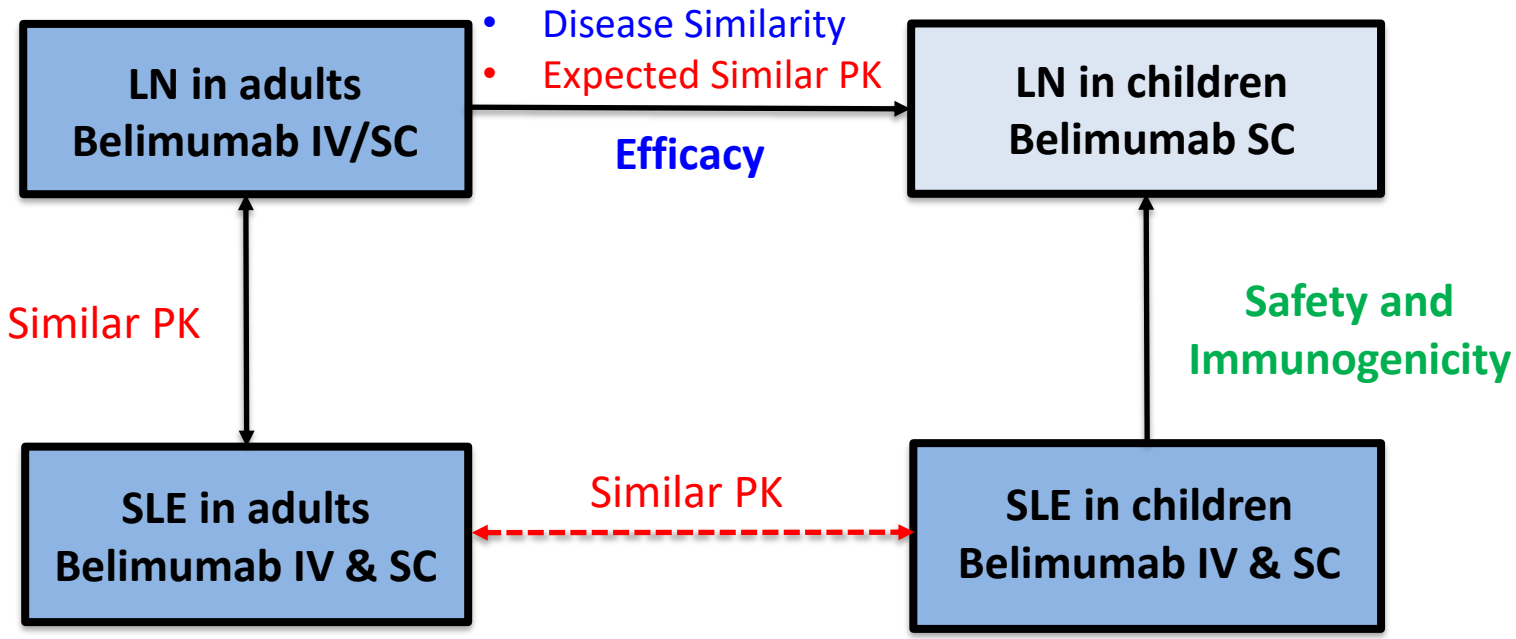
Common adverse reactions (≥5%): nausea, diarrhea, pyrexia, nasopharyngitis, bronchitis, insomnia, pain in extremity, depression, migraine, pharyngitis, and injection site reactions (subcutaneous administration). (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact GlaxoSmithKline at 1-877-423-6597 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.

Revised: 6/2025

Belimumab SC for Pediatric LN: PK-based Extrapolation of Efficacy



- Approval based on extrapolation of efficacy from belimumab SC in adults and further supported by efficacy from belimumab IV in children with SLE
- Safety leveraged from belimumab IV and SC in children with SLE

Belimumab Clinical Trials

Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
BEL114055 (C1109) 52-week	MC, R, DB, PC PK, safety and efficacy	93 pSLE subjects 5 to 17 yo (SELENA/SLEDAI score ≥6)	• Belimumab 10 mg/kg • Placebo	SRI-4 at Week 52
BEL110751 (1056) 76-week	P3, MC, R, DB, PC efficacy and safety	819 adults with active SLE (SELENA/SLEDAI score ≥6)	• Belimumab 10 mg/kg • Belimumab 1 mg/kg • Placebo	SRI-4 at Week 52
BEL110752 (1057) 52-week	P3, MC, R, DB, PC efficacy and safety	865 adults with active SLE (SELENA/SLEDAI score ≥6)	• Belimumab 10 mg/kg • Belimumab 1 mg/kg • Placebo	SRI-4 at Week 52

Voclosporin Clinical Trials

Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
NCT03021499 (Study 1) 52-week	MC, R, DB, PC safety and efficacy	357 SLE subjects with Class III/IV LN SOC: MMF + steroid taper	• Voclosporin 23.7 mg BID • Placebo	CRR at Week 52

Voclosporin Results

Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
NCT03021499 (Study 1) 52-week	MC, R, DB, PC safety and efficacy	357 SLE subjects with Class III/IV LN SOC: MMF + steroid taper	• Voclosporin 23.7 mg BID • Placebo	CRR at Week 52

Table 4: Complete Renal Response at Week 52 (Study 1)

	LUPKYNIS (N=179)	Placebo (N=178)	Odds Ratio
Primary Endpoint			
Complete Renal Response at Week 52 [n (%)][a]	73 (40.8)	40 (22.5)	2.7 (95% CI: 1.6, 4.3); p<0.001
Components of Primary Endpoint			
UPCR ≤0.5 mg/mg [n (%)]	81 (45.3)	41 (23.0)	3.1 (95% CI: 1.9, 5.0)
eGFR ≥60 mL/min/1.73 m^2 or no confirmed decrease from baseline in eGFR of >20% or no treatment- or disease-related eGFR-associated adverse event[b] at time of assessment [n (%)]	147 (82.1)	135 (75.8)	1.5 (95% CI: 0.8, 2.5)

Anifrolumab Clinical Trials

Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
NCT01438489 (Trial 1) 52-week	MC, R, DB, PC safety and efficacy	305 adults with active SLE (SLEDAI-2K score ≥6) SOC + steroid taper	• anifrolumab 300 mg • anifrolumab 1000 mg • Placebo	**SRI-4 & steroid reduction at Week 24**
NCT02446912 (Trial 2) 52-week	MC, R, DB, PC efficacy and safety	457 adults with active SLE (SLEDAI-2K score ≥6)	• anifrolumab 150 mg • anifrolumab 300 mg • Placebo	**SRI-4 at Week 52** Steroid reduction cSLE activity Flare rate
NCT02446899 (Trial 3) 52-week	MC, R, DB, PC efficacy and safety	362 adults with active SLE (SLEDAI-2K score ≥6)	• anifrolumab 300 mg • Placebo	**BICLA at Week 52** Steroid reduction cSLE activity Flare rate

Anifrolumab Results

Table 3 BICLA Response Rate at Week 52

	Trial 1*,†		Trial 2*,†		Trial 3‡	
	Anifrolumab-fnia 300 mg (N=99)	Placebo (N=102)	Anifrolumab-fnia 300 mg (N=180)	Placebo (N=184)	Anifrolumab-fnia 300 mg (N=180)	Placebo (N=182)
BICLA Response Rate§						
Responder, n (%)	54 (54.6)	27 (25.8)	85 (47.1)	55 (30.2)	86 (47.8)	57 (31.5)
Difference in Response Rates (95% CI)	28.8 (15.7, 41.9)		17.0 (7.2, 26.8)		16.3 (6.3, 26.3) p-value = 0.001	
Components of BICLA Response§						
BILAG Improvement, n (%)	54 (54.5)	28 (27.5)	85 (47.2)	58 (31.5)	88 (48.9)	59 (32.4)
No Worsening of SLEDAI-2K, n (%)	73 (73.7)	61 (59.8)	121 (67.2)	104 (56.5)	122 (67.8)	94 (51.6)
No Worsening of PGA, n (%)	76 (76.8)	62 (60.8)	117 (65.0)	105 (57.1)	122 (67.8)	95 (52.2)

Table 4 SRI-4 Response Rate at Week 52

	Trial 1*		Trial 2†		Trial 3*	
	Anifrolumab-fnia 300 mg (N=99)	Placebo (N=102)	Anifrolumab-fnia 300 mg (N=180)	Placebo (N=184)	Anifrolumab-fnia 300 mg (N=180)	Placebo (N=182)
SRI-4 Response Rate‡						
Responder, n (%)	62 (62.8)	41 (38.8)	88 (49.0)	79 (43.0)	100 (55.5)	68 (37.3)
Difference in Response Rates (95% CI)	24.0 (10.9, 37.2)		6.0 (-4.2, 16.2)		18.2 (8.1, 28.3)	
Components of SRI-4 Response‡						
SLEDAI-2K improvement, n (%)	62 (62.6)	41 (40.2)	89 (49.4)	80 (43.5)	101 (56.1)	71 (39.0)
No worsening of BILAG, n (%)	75 (75.8)	61 (59.8)	119 (66.1)	105 (57.1)	125 (69.4)	94 (51.6)
No worsening of PGA, n (%)	76 (76.8)	62 (60.8)	117 (65.0)	105 (57.1)	122 (67.8)	95 (52.2)

Obinutuzumab Clinical Trials

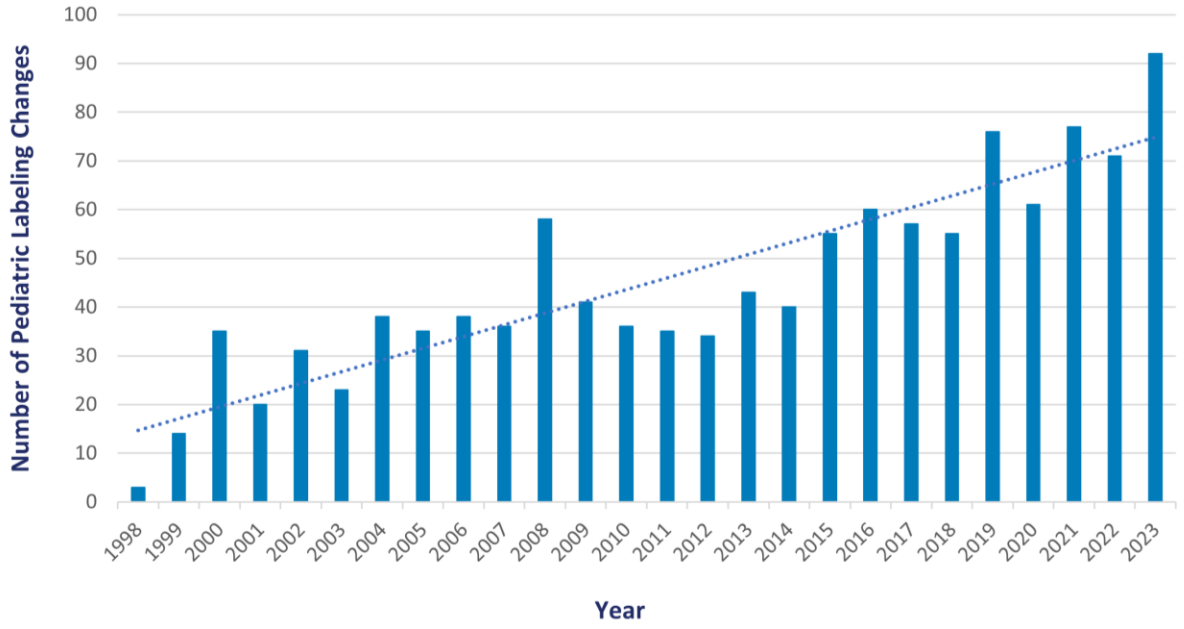
Study	Design Objectives	Study Population	Dosing Regimens	Key Endpoints
REGENCY NCT04221477 76-week	MC, R, DB, PC safety and efficacy	271 SLE subjects with Class III/IV LN (+/- Class V) Methylpred within 6 months	• obinutuzumab 1000 mg + MMF + steroid • Placebo + MMF + steroid	**CRR at Week 76** Steroid reduction Proteinuric response Renal events

Obinutuzumab Results

	GAZYVA + standard therapy (N=135)	Placebo + standard therapy (N=136)
Primary Endpoint		
Complete renal response (CRR) at Week 76 (%)	46.4 (38.0, 54.9)	33.1 (25.2, 41)
Treatment difference (95% CI)[a]	13.4 (2.0, 24.8)	
p-value	0.0232	
Components of CRR:		
UPCR < 0.5 g/g	64 (47.4%)	49 (36.0%)
eGFR ≥ 85% at baseline	113 (83.7%)	103 (75.7%)
No occurrence of intercurrent events	120 (88.9%)	102 (75%)
Key Secondary Endpoints		
CRR with successful prednisone taper at Week 76 (%)	42.7 (34.3, 51.1)	30.9 (23.1, 38.7)
Treatment difference (95% CI)	11.9 (0.6, 23.2)	
p-value	0.0421	
Proteinuric response at Week 76 (%)	55.5 (47.1, 64)	41.9 (33.6, 50.2)
Treatment difference (95% CI)	13.7 (2.0, 25.4),	
p-value	0.0227	

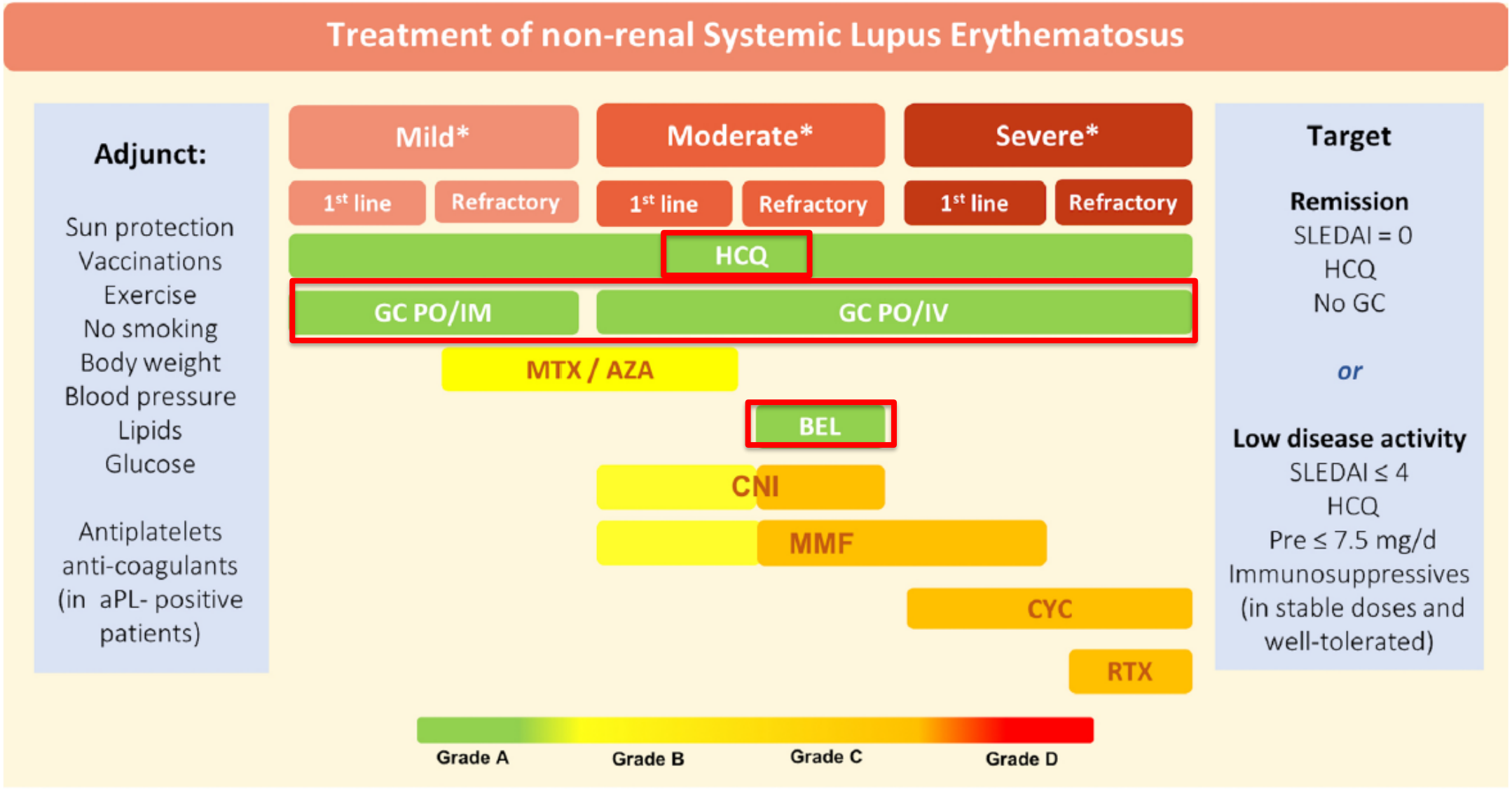
GOAL of PREA *and* BPCA

- To achieve new pediatric labeling to support appropriate use of drugs and biologics to treat pediatric patients



PREA and BPCA have led to inclusion of pediatric-specific labeling in over 1000 products

2019 EULAR Recommendations



Hahn BH, et al. *Arthritis Care Res*. 2012;64:797-808.

2019 EULAR Recommendations: SLE/LN

- Goal of treatment
  - General SLE
    - Complete remission: absence of clinical activity without GC and IS drugs
    - Low disease activity
      - SLEDAI ≤ 3 on antimalarials OR
      - SLEDAI ≤ 4, PGA ≤ 1 with GC ≤ 7.5mg prednisone and well-tolerated IS
  - Lupus Nephritis (LN)
    - Partial remission
      - ≥ 50% reduction in proteinuria to subnephrotic levels
      - SCr within 10% of baseline
    - Complete remission (longer treatment duration of 12-24 months)
      - Proteinuria <500mg per 24 hours
      - SCr within 10% of baseline
    - Reduction of proteinuria is more important than residual hematuria
      - ≤ 1 gram/day at 6 months
      - ≤ 0.8 gram/day at 12 months

CRR for voclosproin

- UPCR of ≤ 0.5 mg/mg, AND
- eGFR ≥ 60 mL/min/1.73 m^2 or no confirmed decrease from baseline in eGFR of > 20% or no treatment-related or disease-related eGFR associated event at assessment

- Cannot have received > 10 mg prednisone for ≥ 3 consecutive days or ≥ 7 days total Weeks 44 to 52

CRR for obinutuzumab

- UPCR of < 0.5 mg/mg, AND
- eGFR ≥ 85% of baseline

SRI-4 Composite Responder Index

- 3 components
  - Improvement in SLEDAI of at least 4 points from baseline
  - No worsening in PGA (<10% increase from baseline)
  - No worsening in BILAG (no new BILAG A or more than 1 new BILAG B)

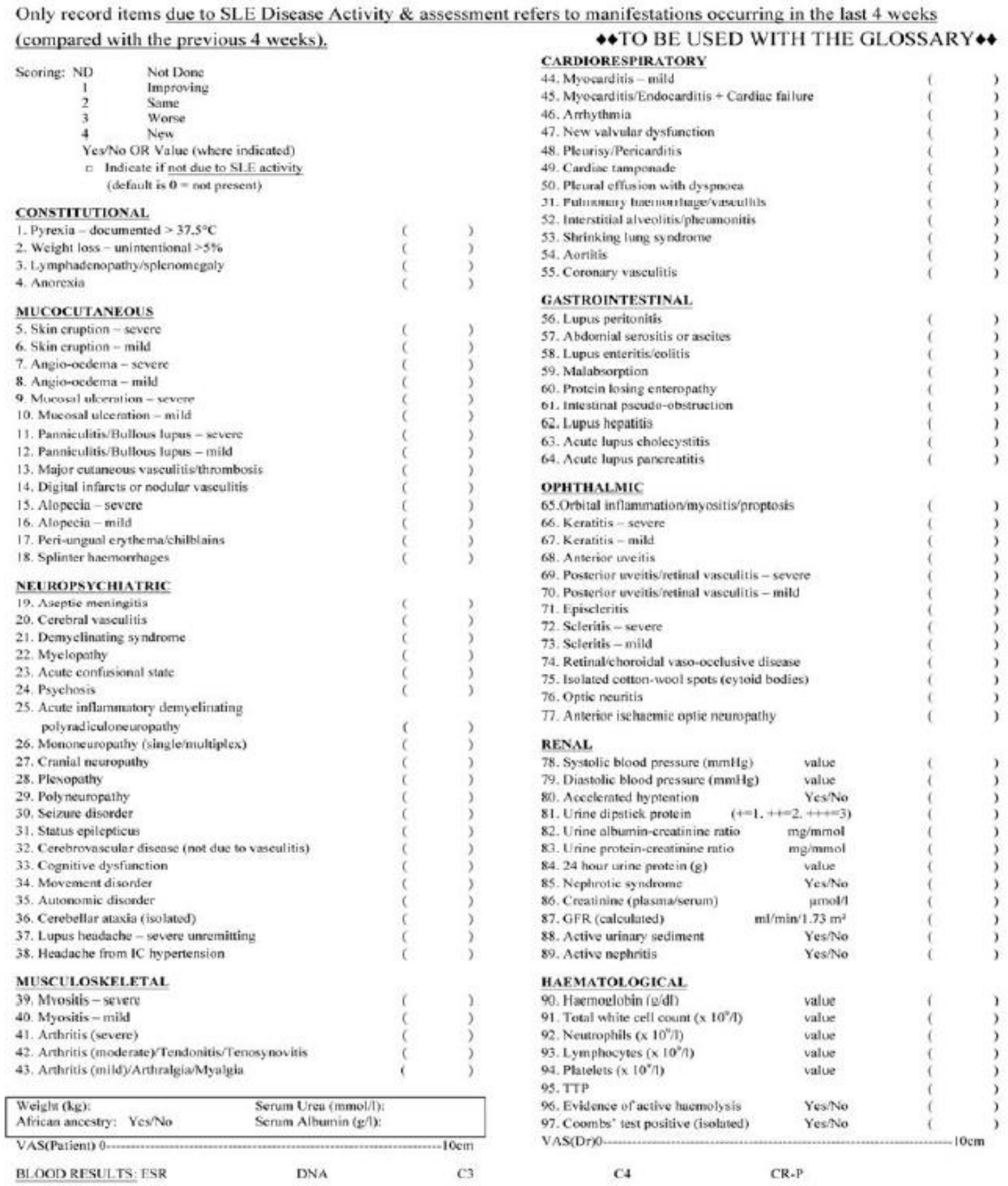
- Well-validated in multiple prospective, PC trials with belimumab and sizable phase 2b study with anifrolumab

- Correlate with clinical, laboratory, and health-related quality-of-life measures in SLE

SLEDAI-2K

Score	Present	Descriptor	Definition
8		Seizure	Recent onset, exclude metabolic, infectious or drug causes.
8		Psychosis	Altered ability to function in normal activity due to severe disturbance in the perception of reality. Include hallucinations, incoherence, marked loose associations, impoverished thought content, marked illogical thinking, bizarre, disorganized, or catatonic behavior. Exclude uremia and drug causes.
8		Organic Brain Syndrome	Altered mental function with impaired orientation, memory, or other intelligent function, with rapid onset and fluctuating clinical features, inability to sustain attention to environment, plus at least 2 of the following: perceptual disturbance, incoherent speech, insomnia or daytime drowsiness, or increased or decreased psychomotor activity. Exclude metabolic, infectious or drug causes.
8		Visual Disturbance	Retinal changes of SLE. Include cytoid bodies, retinal hemorrhages, serious exudate or hemorrhages in the choroid, or optic neuritis. Exclude hypertension, infection, or drug causes.
8		Cranial Nerve Disorder	New onset of sensory or motor neuropathy involving cranial nerves.
8		Lupus Headache	Severe, persistent headache; may be migrainous, but must be nonresponsive to narcotic analgesia.
8		CVA	New onset of cerebrovascular accident(s). Exclude arteriosclerosis.
8		Vasculitis	Ulceration, gangrene, tender finger nodules, periungual infarction, splinter hemorrhages, or biopsy or angiogram proof of vasculitis.
4		Arthritis	≥2 joints with pain and signs of inflammation (ie, tenderness, swelling, or effusion).
4		Myositis	Proximal muscle aching/weakness, associated with elevated creatine phosphokinase/adolase or electromyogram changes or a biopsy showing myositis.
4		Urinary Casts	Heme-granular or red blood cell casts.
4		Hematuria	>5 red blood cells/high power field. Exclude stone, infection or other cause.
4		Proteinuria	>0.5 gram/24 hrs.
4		Pyuria	>5 white blood cells/high power field. Exclude infection.
2		Rash	Inflammatory type rash.
2		Alopecia	Abnormal, patchy or diffuse loss of hair.
2		Mucosal Ulcers	Oral or nasal ulcerations.
2		Pleurisy	Pleuritic chest pain with pleural rub or effusion, or pleural thickening.
2		Pericarditis	Pericardial pain with at least 1 of the following: rub, effusion, or electrocardiogram or echocardiogram confirmation.
2		Low Complement	Decrease in CH50, C3, or C4 below the lower limit of normal for testing laboratory.
2		Increased DNA binding	Increased DNA binding by Farr assay above normal range for testing laboratory.
1		Fever	>38°C. Exclude infectious cause.
1		Thrombocytopenia	<100,000 platelets / x 10^9/ L, exclude drug causes.
1		Leukopenia	<3,000 white blood cell / x 10^9/ L, exclude drug causes.
		TOTAL SCORE	(Sum of weights next to descriptors marked present)

BILAG



Only record items due to SLE Disease Activity & assessment refers to manifestations occurring in the last 4 weeks (compared with the previous 4 weeks).

◆◆TO BE USED WITH THE GLOSSARY◆◆

Scoring: ND Not Done
1 Improving
2 Same
3 Worse
4 New
Yes/No OR Value (where indicated)
□ Indicate if not due to SLE activity (default is 0 = not present)

CONSTITUTIONAL
1. Pyrexia – documented > 37.5°C ( )
2. Weight loss – unintentional >5% ( )
3. Lymphadenopathy/splenomegaly ( )
4. Anorexia ( )

MUCOCUTANEOUS
5. Skin eruption – severe ( )
6. Skin eruption – mild ( )
7. Angio-oedema – severe ( )
8. Angio-oedema – mild ( )
9. Mucosal ulceration – severe ( )
10. Mucosal ulceration – mild ( )
11. Panniculitis/Bullous lupus – severe ( )
12. Panniculitis/Bullous lupus – mild ( )
13. Major cutaneous vasculitis/thrombosis ( )
14. Digital infarcts or nodular vasculitis ( )
15. Alopecia – severe ( )
16. Alopecia – mild ( )
17. Peri-ungual erythema/chilblains ( )
18. Splinter haemorrhages ( )

NEUROPSYCHIATRIC
19. Aseptic meningitis ( )
20. Cerebral vasculitis ( )
21. Demyelinating syndrome ( )
22. Myelopathy ( )
23. Acute confusional state ( )
24. Psychosis ( )
25. Acute inflammatory demyelinating polyradiculoneuropathy ( )
26. Mononeuropathy (single/multiplex) ( )
27. Cranial neuropathy ( )
28. Plexopathy ( )
29. Polyneuropathy ( )
30. Seizure disorder ( )
31. Status epilepticus ( )
32. Cerebrovascular disease (not due to vasculitis) ( )
33. Cognitive dysfunction ( )
34. Movement disorder ( )
35. Autonomic disorder ( )
36. Cerebellar ataxia (isolated) ( )
37. Lupus headache – severe unremitting ( )
38. Headache from IC hypertension ( )

MUSCULOSKELETAL
39. Myositis – severe ( )
40. Myositis – mild ( )
41. Arthritis (severe) ( )
42. Arthritis (moderate)/Tendonitis/Tenosynovitis ( )
43. Arthritis (mild)/Arthralgia/Myalgia ( )

Weight (kg): Serum Urea (mmol/l):
African ancestry: Yes/No Serum Albumin (g/l):

VAS(Patient) 0----------10cm

BLOOD RESULTS: ESR DNA C3

CARDIORESPIRATORY
44. Myocarditis – mild ( )
45. Myocarditis/Endocarditis + Cardiac failure ( )
46. Arrhythmia ( )
47. New valvular dysfunction ( )
48. Pleurisy/Pericarditis ( )
49. Cardiac tamponade ( )
50. Pleural effusion with dyspnoea ( )
51. Pulmonary haemorrhage/vasculitis ( )
52. Interstitial alveolitis/pneumonitis ( )
53. Shrinking lung syndrome ( )
54. Aortitis ( )
55. Coronary vasculitis ( )

GASTROINTESTINAL
56. Lupus peritonitis ( )
57. Abdomial serositis or ascites ( )
58. Lupus enteritis/colitis ( )
59. Malabsorption ( )
60. Protein losing enteropathy ( )
61. Intestinal pseudo-obstruction ( )
62. Lupus hepatitis ( )
63. Acute lupus cholecystitis ( )
64. Acute lupus pancreatitis ( )

OPHTHALMIC
65.Orbital inflammation/myositis/proptosis ( )
66. Keratitis – severe ( )
67. Keratitis – mild ( )
68. Anterior uveitis ( )
69. Posterior uveitis/retinal vasculitis – severe ( )
70. Posterior uveitis/retinal vasculitis – mild ( )
71. Episcleritis ( )
72. Scleritis – severe ( )
73. Scleritis – mild ( )
74. Retinal/choroidal vaso-occlusive disease ( )
75. Isolated cotton-wool spots (cytoid bodies) ( )
76. Optic neuritis ( )
77. Anterior ischaemic optic neuropathy ( )

RENAL
78. Systolic blood pressure (mmHg) value ( )
79. Diastolic blood pressure (mmHg) value ( )
80. Accelerated hyptention Yes/No ( )
81. Urine dipstick protein (+=1, ++=2, +++=3) ( )
82. Urine albumin-creatinine ratio mg/mmol ( )
83. Urine protein-creatinine ratio mg/mmol ( )
84. 24 hour urine protein (g) value ( )
85. Nephrotic syndrome Yes/No ( )
86. Creatinine (plasma/serum) µmol/l ( )
87. GFR (calculated) ml/min/1.73 m² ( )
88. Active urinary sediment Yes/No ( )
89. Active nephritis Yes/No ( )

HAEMATOLOGICAL
90. Haemoglobin (g/dl) value ( )
91. Total white cell count (x 10^9/l) value ( )
92. Neutrophils (x 10^9/l) value ( )
93. Lymphocytes (x 10^9/l) value ( )
94. Platelets (x 10^9/l) value ( )
95. TTP ( )
96. Evidence of active haemolysis Yes/No ( )
97. Coombs' test positive (isolated) Yes/No ( )

VAS(Dr)0----------10cm

C4 CR-P

Belimumab for SLE

- IV Program
  - Trial 1 (52 wks)
    - Baseline disease activity
      - SELENA-SLEDAI ≥ 4 at baseline
      - History of autoantibodies (ANA and/or anti-dsDNA)
    - Endpoints
      - % change in SELENA-SLEDAI score at Wk 24
      - Time to first flare over 52 weeks
  - Trial 2 (72 wks) and 3 (52 wks)
    - Baseline disease activity
      - SELENA-SLEDAI ≥ 6 at baseline
      - Positive autoantibody at screening
    - Endpoint: SRI-4 response at Week 52
- SC Program (1 trial)
  - Baseline disease activity
    - SELENA-SLEDAI ≥ 8 at baseline
    - Positive autoantibody at screening
  - Endpoint
    - Primary: SRI-4 response at Wk 52
    - Secondary
      - Time to first severe flare (measured by modified SELENA-SLEDAI SLE Flare Index)
      - Proportion of patients receiving prednisone >7.5mg/day at baseline with average dose reduction by ≥ 25% to ≤ 7.5 mg/day during Wk 40 to 52