AdipoGen®
LIFE SCIENCES

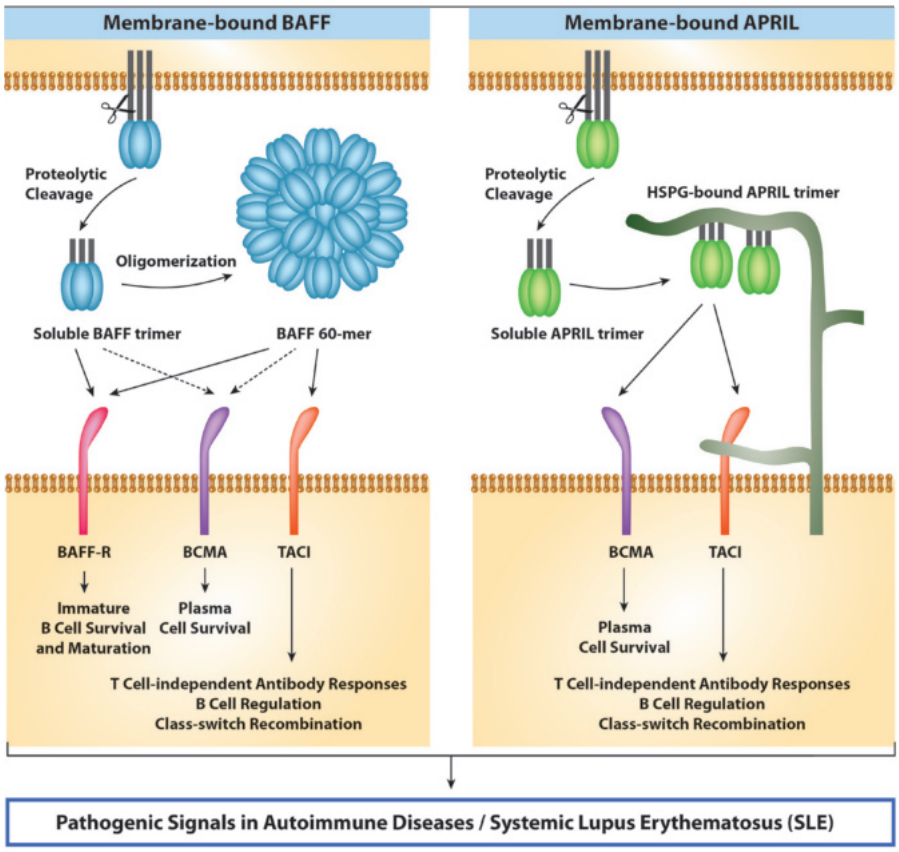
www.adipogen.com

Master Regulators of B Cells

APRIL & BAFF Reagents for Autoimmune Disease Research

The cytokines APRIL (A Proliferation-Inducing Ligand, TNFSF13) and BAFF (B Cell Activating Factor, TNFSF13B) are essential regulators of B cell development, survival, maturation and antibody production. By signaling through the receptors BAFF-R, TACI and BCMA, they orchestrate humoral immunity and maintain B cell homeostasis. Plasma cell levels in the bone marrow and in the intestine rely mainly on three ligand/receptor pairs: APRIL-BCMA, APRIL-TACI and BAFF-TACI. In addition, if mature peripheral B cells depend on BAFF alone, plasma cells are supported by both APRIL and BAFF. Dysregulated APRIL and BAFF signaling contributes to the survival of autoreactive B cells, excessive autoantibody production and chronic inflammation, making these cytokines central players in numerous autoimmune diseases, including systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), Sjögren's syndrome, multiple sclerosis (MS) and IgA nephropathy. Elevated circulating levels of APRIL and BAFF have therefore emerged as valuable biomarkers of disease activity and progression, while their signaling pathways have become attractive targets for therapeutic intervention. As interest in B cell-targeted therapies continues to grow, robust and well-characterized research reagents are essential for advancing our understanding of APRIL and BAFF biology.

AdipoGen Life Sciences offers a **comprehensive portfolio of recombinant proteins, antibodies and ELISA kits** to support studies of **B cell biology, autoimmune diseases, inflammation and immunotherapy**. Whether investigating signaling mechanisms, validating biomarkers, or developing next-generation therapeutics, our products provide researchers with reliable tools to accelerate discovery.



SELECTED REVIEW ARTICLES

[1] The BAFF-APRIL System in Cancer: A. Ullah & F. Mackay; Cancers **15,** 1791 (2023) • **[2]** Sequelae of B-Cell Depleting Therapy: An Immunologist's Perspective: M. Kacar, et al.; BioDrugs **39,** 103 (2025) • **[3]** Exploring the role of APRIL in autoimmunity: implications for therapeutic targeting in systemic lupus erythematosus, rheumatoid arthritis, and Sjögren's syndrome: A.V. Poznyak, et al.; Front. Immunol. **16,** 1523392 (2025) • **[4]** Highlights of 2025: plasma cell biology: A.B. Karaviotis & M.J. Robinson; Immunol. Cell Biol. **104,** 524 (2026) • **[5]** The Roles of A Proliferation-Inducing Ligand (APRIL) and B-Cell Activating Factor (BAFF) in IgA Nephropathy: C. Reily, et al.; Am. J. Kidney Dis. **87,** 709 (2026)

CONTENTS

Best-In-Class Assays 2
Validated Antibodies Overview 3
Unique Functional Antibodies 4–5
Plasma Cell Depletion 5
Validated Recombinant Proteins 6
Cytokine Crosstalk – InVivoKines™ 7
B-Xpander™ – B Cell Expansion 8

Best-In-Class APRIL & BAFF ELISA Kits

UNIQUE

BAFF-APRIL (Human) Heteromers ELISA Kit

Recent studies have demonstrated that BAFF and APRIL can form functional heteromeric complexes, which may represent an additional mechanism for regulating B cell responses and immune homeostasis [1]. The BAFF-APRIL (Human) Heteromers ELISA Kit (Prod. No. AG-45B-0030) from AdipoGen Life Sciences enables the specific detection and quantification of human BAFF-APRIL heteromeric complexes in biological samples. This assay provides a valuable tool for investigating altered BAFF/APRIL signaling in autoimmune diseases, B cell malignancies and immune dysregulation, supporting research into disease biomarkers and therapeutic strategies targeting B cell pathways.

LIT: [1] Stoichiometry of Heteromeric BAFF and APRIL Cytokines Dictates Their Receptor Binding and Signaling Properties: S. Schuepbach-Mallepell, et al.; J. Biol. Chem. **290,** 16330 (2015) [GENERAL]

NEW **BAFF-APRIL (human) Heteromers ELISA Kit**

AG-45B-0030 96 wells

Sensitivity: 0.08 ng/ml
Range: 0.125 to 8 ng/ml
Sample: Cell Culture Supernatant, Plasma, Serum

NEW APRIL (human) ELISA Kit

The BEST on the Market!

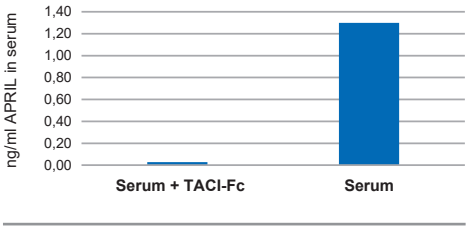
The APRIL (human) ELISA Kit (Prod. No. AG-45B-0012) is a sandwich ELISA for specific quantitative determination of human APRIL in serum, plasma and cell culture supernatants. This ELISA Kit shows both high specificity and high sensitivity, which is a clear advantage compared to other APRIL (human) ELISA Kits from key competitors.

APRIL (human) ELISA Kit

AG-45B-0012 96 wells

Sensitivity: 1 pg/ml
Range: 3.9 to 250 pg/ml
Sample: Cell Culture Supernatant, Plasma, Serum

Specificity: Serum from a healthy patient is left untreated or treated with 1 µg/ml of the APRIL receptor, TACI (human):Fc (human) (Prod. No. AG-40B-0079). APRIL levels were measured using the APRIL (human) ELISA Kit (Prod. No. AG-45B-0012).



NEW **APRIL (mouse) ELISA Kit**

AG-45B-0034 96 wells

Sensitivity: 1.7 pg/ml
Range: 1.95 to 125pg/ml
Sample: Cell Culture Supernatant, Plasma, Serum

BAFF, Soluble (human) ELISA Kit (hypersensitive)

The RELIABLE Assay

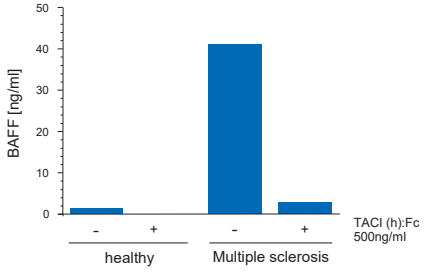
The BAFF, Soluble (human) ELISA Kit (Prod. No. AG-45B-0001) is a sandwich ELISA for specific quantitative determination of human BAFF in serum, plasma and cell culture supernatants. This ELISA Kit does not cross-react with mouse BAFF and has been chosen by several CROs for its high specificity and high sensitivity.

BAFF, Soluble (human) ELISA Kit (hypersensitive)

AG-45B-0001 96 wells

Sensitivity: 8 pg/ml
Range: 15.6 to 500 pg/ml
Sample: Cell Culture Supernatant, Plasma, Serum

Specificity: Serum from a healthy patient or patient with multiple sclerosis is left untreated or treated with 0.5 µg/ml of a BAFF receptor, TACI (human):Fc (human) (AG-40B-0079). BAFF levels are measured using the BAFF, Soluble (human) ELISA Kit (hypersensitive) (Prod. No. AG-45B-0001).



BAFF, Soluble (human) Matched Pair Detection Set

AG-46B-0001 5 x 96 wells

NEW **BAFF, Soluble (mouse) ELISA Kit**

AG-45B-0033 96 wells

Sensitivity: 14 pg/ml
Range: 15.6 to 1000 pg/ml
Sample: Cell Culture Supernatant, Plasma, Serum

AdipoGen® LIFE SCIENCES

APPLICATIONS: FACS: Flow Cytometry; **FUNC:** Functional Application; **ICC:** Immunocytochemistry; **IHC:** Immunohistochemistry **IP:** Immunoprecipitation; **WB:** Western blot

FORMULATION: PF = Preservative free
SPECIES: Hu = Human; **Ms** = Mouse; **Rt** = Rat; **Rb** = Rabbit; **Prm** = Primate

Validated APRIL/BAFF-Related Antibodies

Manufactured by AdipoGen® LIFE SCIENCES

PRODUCT NAME	PID	ISOTYPE	APPLICATION	SPECIES
APRIL (mouse), mAb (blocking) (Centotto-1) (PF)	AG-20B-0083PF	Mouse IgG1κ	FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1)	AG-27B-0001	Mouse IgG2bλ	ELISA, FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (PF)	AG-27B-0001PF	Mouse IgG2bλ	ELISA, FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (Biotin)	AG-27B-0001B	Mouse IgG2bλ	ELISA, FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (Fc LAEA-PG)	AG-27B-0023	Mouse IgG2bλ	ELISA, FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (Fc LAEA-PG) (PF)	AG-27B-0023PF	Mouse IgG2bλ	ELISA, FUNC (Blocking), IP	Ms
APRIL (mouse), mAb (rec.) (blocking) (Apry-1-3)	AG-27B-0017	Human IgG1λ	ELISA, FUNC (Blocking), IP	Ms
APRIL (human), mAb (blocking) (Mahya-1) (PF)	AG-20B-0078PF	Mouse IgG1κ	ELISA, FUNC (Blocking), IP	Hu
APRIL, mAb (Heaty-1)	AG-20B-0082	Mouse IgG2b	ELISA, IP	Hu, Ms
BAFF (human), mAb (blocking) (4.62)	AG-20B-0017	Rat IgG2a	ELISA, FUNC (Blocking), IP	Hu
BAFF (human), mAb (blocking) (4.62) (Biotin)	AG-20B-0017B	Rat IgG2a	ELISA, FUNC (Blocking), IP	Hu
BAFF (human), mAb (2.81)	AG-20B-0018	Rat IgG2b	ELISA, IP	Hu
BAFF (human), mAb (1-35-1)	AG-20B-0037	Rat IgG2aκ	FACS	Hu
BAFF (mouse), mAb (blocking) (Sandy-2)	AG-20B-0063	Mouse IgG1κ	FUNC (Blocking), IP	Ms
BAFF (mouse), mAb (blocking) (Sandy-2) (PF)	AG-20B-0063PF	Mouse IgG1κ	FUNC (Blocking), IP	Ms
BAFF-R (human), mAb (HuBR9.1)	AG-20B-0016	Mouse IgG1	FACS	Hu
BAFF-R (human), mAb (HuBR9.1) (Biotin)	AG-20B-0016B	Mouse IgG1	FACS	Hu
BAFF-R (human), mAb (HuBR9.1) (ATTO 488)	AG-20B-0016TD	Mouse IgG1	FACS	Hu
BAFF-R (human), mAb (HuBR9.1) (ATTO 647N)	AG-20B-0016TS	Mouse IgG1	FACS	Hu
BAFF-R (mouse), mAb (9B9)	AG-20B-0034	Rat IgG2b	FACS, FUNC	Ms
BAFF-R (mouse), mAb (9B9) (PF)	AG-20B-0034PF	Rat IgG2b	FACS, FUNC	Ms
BAFF-R (mouse), mAb (9B9) (Biotin)	AG-20B-0034B	Rat IgG2b	FACS, FUNC	Ms
BAFF-R (mouse), mAb (9B9) (ATTO 647N)	AG-20B-0034TS	Rat IgG2b	FACS, FUNC	Ms
BCMA (human), Rabbit Monoclonal (RM526)	REV-31-1419-00	Rabbit IgG	IHC	Hu
TACI (mouse), mAb (1A-10)	AG-20B-0035	Rat IgG2a	FACS	Ms
TACI (mouse), mAb (1A-10) (Biotin)	AG-20B-0035B	Rat IgG2a	FACS	Ms
LTβR (mouse), mAb (4H8 WH2)	AG-20B-0008	Rat IgG2a	FACS, FUNC (Blocking)	Ms
LTβR (mouse), mAb (4H8 WH2) (PF)	AG-20B-0008PF	Rat IgG2a	FACS, FUNC (Blocking)	Ms
LTβR (mouse), mAb (3C8)	AG-20B-0041	Rat IgG1κ	FUNC (Blocking)	Ms
LTβR (mouse), mAb (3C8) (PF)	AG-20B-0041PF	Rat IgG1κ	FUNC (Blocking)	Ms

Standard validated functional antibodies for *in vivo* Research!

Validated APRIL/BAFF-Related Antibodies

Manufactured by Ancell™ Immunology Research Products

PRODUCT NAME	PID	ISOTYPE	APPLICATION	SPECIES
BAFF (human), mAb (ANC2H3)	ANC-266-020	Mouse IgG1κ	ELISA, FACS, FUNC (Blocking)	Hu
BAFF (human), mAb (ANC2H3) (PF)	ANC-266-820	Mouse IgG1κ	ELISA, FACS, FUNC (Blocking)	Hu
BAFF (human), mAb (ANC2H3) (FITC)	ANC-266-040	Mouse IgG1κ	ELISA, FACS, FUNC (Blocking)	Hu
BAFF-R (human), mAb (ANC268.2/6E6)	ANC-275-020	Mouse IgG1κ	ELISA, FACS	Hu
BAFF-R (human), mAb (ANC268.2/6E6) (PF)	ANC-275-820	Mouse IgG1κ	ELISA, FACS	Hu
BAFF-R (human), mAb (ANC268.2/6E6) (FITC)	ANC-275-040	Mouse IgG1κ	ELISA, FACS	Hu
BCMA (human), mAb (ANC3B1)	ANC-269-020	Mouse IgG1κ	ELISA, FACS	Hu
BCMA (human), mAb (ANC3B1) (PF)	ANC-269-820	Mouse IgG1κ	FACS	Hu
LTβR (human), mAb (ANCLTR2/9E2)	ANC-267-020	Mouse IgG1κ	ELISA, FACS	Hu
LTβR (human), mAb (ANCLTR2/9E2) (PF)	ANC-267-820	Mouse IgG1κ	ELISA, FACS	Hu
LTβR (human), mAb (ANCLTR2/9E2) (FITC)	ANC-267-040	Mouse IgG1κ	ELISA, FACS	Hu

See www.adipogen.com for all Label Variations and Formats.

Unique & Potent APRIL/BAFF-Related Antibodies

AdipoGen Life Sciences has been at the forefront of BAFF and APRIL research for many years, offering one of the most comprehensive portfolios of highly validated antibodies available. Our collection includes unique blocking monoclonal antibodies, recombinant antibodies and application-specific reagents for functional studies, immunoprecipitation, flow cytometry and *in vivo* research. Developed in close collaboration with leading experts in TNF superfamily biology, AdipoGen antibodies are trusted by researchers worldwide to investigate B cell biology, unravel disease mechanisms, validate therapeutic targets and accelerate the development of next-generation immunotherapies.

UNIQUE Mouse BAFF Blocking Antibody – Clone Sandy-2

AdipoGen Life Sciences' anti-BAFF (mouse), mAb (blocking) (Sandy-2) (Prod. No. AG-20B-0063) is a monoclonal antibody that recognizes mouse BAFF and works specifically in IP and Functional Application. The antibody inhibits mouse BAFF binding to BAFF-R and TACI. It is highly potent in **blocking mouse BAFF *in vivo* and induces B cell depletion and generates a phenotype similar to that observed in BAFF$^{-/-}$ mice**. The antibody is available with or without preservatives.

anti-BAFF (mouse), mAb (blocking) [Sandy-2] (PF)

AG-20B-0063PF 100 µg | 500 µg

Clone: Sandy-2
Isotype: Mouse IgG1
Immunogen: Recombinant mouse BAFF.
Application: FUNC, IP
Specificity: Recognizes mouse BAFF.

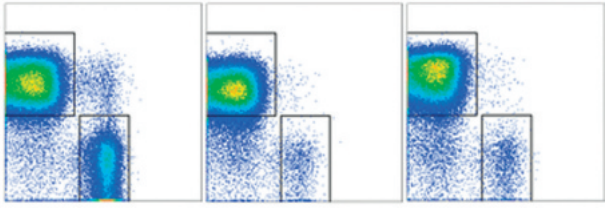


FIGURE: anti-BAFF (mouse), mAb (Sandy-2) (Prod. No. AG-20B-0063PF) blocks the action of endogenous BAFF *in vivo*.

METHOD: Wild type C57BL/6 mice were treated at day 0 (single administration) with monoclonal antibody anti-BAFF (mouse), mAb (Sandy-2) (at 2 mg/kg). Lymph nodes were prepared at week 2 and analyzed by FACS for the presence of T (CD3) and B (CD19) cells. Untreated BAFF WT and KO mice were analyzed in parallel.

UNIQUE Mouse APRIL Blocking Antibody – Clone Apry-1-1

AdipoGen Life Sciences' anti-APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (Prod. No. AG-27B-0001) is a recombinant monoclonal antibody that recognizes mouse APRIL and works specifically in IP and Functional Application. The antibody inhibits mouse APRIL binding to BCMA and TACI. It is highly potent in **blocking mouse APRIL *in vitro* and *in vivo***. In ApoE$^{-/-}$ mice, treatment with Apry-1-1 reduces atherosclerosis in both the aortic root and thoraco-abdominal aorta. The antibody is available with or without preservatives.

anti-APRIL (mouse), mAb (rec.) (blocking) [Apry-1-1] (PF)

AG-27B-0001PF 100 µg | 500 µg | 1 mg

Clone: Apry-1-1
Isotype: Mouse IgG2bλ
Immunogen: Recombinant mouse APRIL (aa 98-232).
Application: ELISA, FUNC, IP
Specificity: Recognizes mouse APRIL. Does not recognize mouse BAFF.

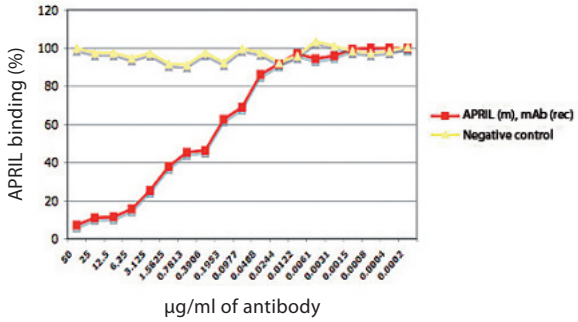


FIGURE: Binding of APRIL (mouse) to BCMA is inhibited by anti-APRIL (mouse), mAb (rec.) (blocking) (Apry-1-1) (Prod. No. AG-27B-0001PF).

METHOD: BCMA:Fc was coated on an ELISA plate at 1 µg/ml. anti-APRIL (mouse) mAb (rec.) (blocking) (Apry-1-1) or an unrelated mAb (recombinant) (Negative control) were added (starting at 50 µg/ml with a twofold serial dilution) together with 0.1 µg/ml of MultimericAPRIL (mouse) (Prod. No. AG-40B-0089). After incubation for 1 h at RT, the *Multimeric*APRIL (mouse) binding was detected using an anti-FLAG® antibody (HRP). The percentage of binding is shown.

See www.adipogen.com for all Label Variations and Formats.

AdipoGen® LIFE SCIENCES

APPLICATIONS: FACS: Flow Cytometry; **FUNC:** Functional Application; **ICC:** Immunocytochemistry; **IHC:** Immunohistochemistry **IP:** Immunoprecipitation; **WB:** Western blot

FORMULATION: PF = Preservative free
SPECIES: Hu = Human; **Ms** = Mouse; **Rt** = Rat; **Rb** = Rabbit; **Prm** = Primate

UNIQUE Mouse APRIL Blocking Antibody – Clone Centotto-1

In a recent study it is reported that BAFF and APRIL contribute to maintaining IgG, IgA and IgM plasma cells in the bone marrow (BM), spleen and intestine and rely mainly on three ligand/receptor pairs: APRIL-BCMA, BAFF-TACI and APRIL-TACI. Together, these actors accounted for 90% of circulating antibodies. To characterize the role of each ligand and receptor, genetic and pharmacological approaches were used. To efficiently target plasma cells, dual inhibition of BAFF and APRIL using blocking antibodies developed at AdipoGen Life Sciences is required (see images below) [1].

LIT: [1] Unique and redundant roles of mouse BCMA, TACI, BAFF, APRIL and IL-6 in supporting antibody-producing cells in different tissues: M. Eslami, et al.; PNAS **21**, e2404309121 (2024)

anti-APRIL (mouse), mAb (blocking) (Centotto-1) (PF)

AG-20B-0083PF 100 µg | 500 µg

Clone: Centotto-1

Isotype: Mouse IgG1κ

Immunogen: Recombinant mouse APRIL.

Application: FUNC (Blocking), IP

Specificity: Recognizes mouse recombinant and endogenous APRIL.

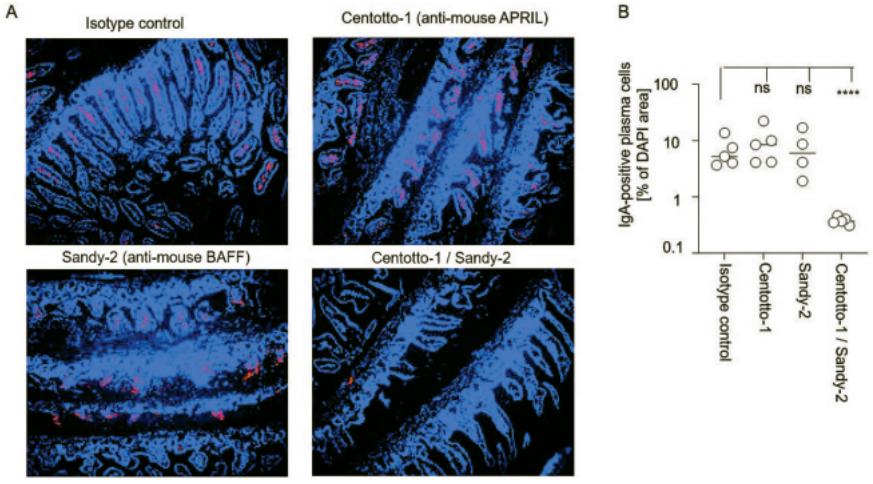


FIGURE: *In vivo* depletion of gut IgA plasma cells by combined inhibition of BAFF and APRIL with the antibodies BAFF (mouse), mAb (blocking) (Sandy-2) (Prod. No. AG-20B-0063PF) and APRIL (mouse), mAb (blocking) (Centotto-1) (Prod. No. AG-20B-0083PF) in mice.

METHOD:

A) Immunofluorescence of IgA-positive plasma cells (pink) and DAPI-positive nuclei (blue) in gut jejunum sections of 10-week-old wild type C57/Bl6 mice treated with 4 weekly i.p. injections of the indicated antibodies at 2 mg/kg.

B) Quantification of IgA-positive plasma cells in the gut (average of 2 sections/mouse) of mice treated with Isotype control (n=5), or with anti-APRIL Centotto-1 (n=5), or with anti-BAFF Sandy-2 (n=4) or with both Centotto-1 and Sandy-2 (n=5). One way ANOVA with Dunnett's multiple comparison test. ns: not significant. **** $P<0.0001$.

Picture courtesy of Dr Mahya Eslami, Dr Pascal Schneider Lab, University of Lausanne, Switzerland.

Plasma Cell Depletion

Long-lived plasma cells are the primary source of protective antibodies that confer durable immunity following infection or vaccination. However, these same cells also sustain the production of pathogenic autoantibodies that drive chronic autoimmune diseases, including systemic lupus erythematosus (SLE), rheumatoid arthritis, Sjögren's syndrome and antibody-mediated transplant rejection. Because long-lived plasma cells are resistant to conventional immunosuppressive therapies and B cell-depleting agents, they represent a major obstacle to achieving lasting disease remission. Recent studies have demonstrated that the selective depletion of antigen-specific plasma cells can eliminate pathogenic antibody responses while preserving protective humoral immunity, highlighting plasma cells as highly attractive therapeutic targets.

NEW Mouse Plasma Cell Depletion Starter Set

AG-44B-0020V 1 Set (Contains enough reagents to deplete plasma cells in 2-3 mice)

The Mouse Plasma Cell Depletion Starter Set (Prod. No. AG-44B-0020V) from AdipoGen Life Sciences provides researchers with a powerful and innovative tool for the selective *in vivo* depletion of murine plasma cells. The Mouse Plasma Cell Depletion Starter Set contains two blocking antibodies, APRIL (mouse), mAb (blocking) (Centotto-1) and BAFF (mouse), mAb (blocking) (Sandy-2), that are sufficient, when used together, **to deplete the plasma cells in mouse and to phenocopy APRIL-ko and BAFF-ko mice**. Developed from pioneering work in plasma cell biology, this ready-to-use reagent set enables the investigation of plasma cell function, antibody-mediated disease mechanisms and next-generation therapeutic strategies aimed at selectively targeting pathogenic plasma cells while minimizing the impact on the remaining immune system. Whether studying autoimmune disease, transplantation, infection, or humoral immunity, the Mouse Plasma Cell Depletion Starter Set offers a unique approach to advancing plasma cell research.

Validated APRIL/BAFF-Related Proteins

AdipoGen Life Sciences, with its deep roots in TNF Superfamily research, provides a unique panel of highly active and multimeric APRIL and BAFF recombinant proteins. The validated high quality research tools are used and published by the experts in BAFF and APRIL research on a regular basis.

PRODUCT NAME	PID	SOURCE	ENDOTOXIN	SPECIES
APRIL (human) (multimeric) (rec.)	AG-40B-0017	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
APRIL (human) (H98) (multimeric) (rec.)	AG-40B-0088	CHO cells	<0.02EU/µg (LAL test).	Hu, Ms
APRIL (mouse) (multimeric) (rec.)	AG-40B-0089	HEK 293 cells	<0.02EU/µg (LAL test).	Hu, Ms
APRIL (mouse) (H98) (multimeric) (rec.)	AG-40B-0035	CHO cells	<0.01EU/µg (LAL test).	Hu, Ms
BAFF, Soluble (human) (60-mer) (rec.) (highly active)	AG-40B-0112	E. coli	<0.01EU/µg (LAL test).	Hu, Ms
BAFF (aa134-285), Soluble (human) (rec.)	AG-40B-0016	E. coli	<0.01EU/µg (LAL test).	Hu, Ms
Fc (human):BAFF (human) (rec.)	AG-40B-0120	CHO cells	<0.01EU/µg (LAL test).	Hu, Ms
BAFF, Soluble (mouse) (rec.)	AG-40B-0022	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
BAFF (trn) (human)-muCD8 Fusion Protein	ANC-525-020	CHO cells	not determined	Hu
BAFF (trn) (human)-muCD8 Fusion Protein (PF)	ANC-525-820	CHO cells	not determined	Hu
BAFF (trn) (human)-muCD8 Fusion Protein (Biotin)	ANC-525-030	CHO cells	not determined	Hu
BAFF-R (human):Fc (human) (rec.)	AG-40B-0027	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
BAFF-R (human)-muIg Fusion Protein	ANC-524-020	CHO cells	not determined	Hu
BAFF-R (human)-muIg Fusion Protein (PF)	ANC-524-820	CHO cells	not determined	Hu
BAFF-R (human)-muIg Fusion Protein (Biotin)	ANC-524-030	CHO cells	not determined	Hu
BCMA (human):Fc (human) (rec.)	AG-40B-0080	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
BCMA (human)-muIg Fusion Protein	ANC-519-020	CHO cells	not determined	Hu
BCMA (human)-muIg Fusion Protein (PF)	ANC-519-820	CHO cells	not determined	Hu
BCMA (human)-muIg Fusion Protein (Biotin)	ANC-519-030	CHO cells	not determined	Hu
BCMA (mouse):Fc (human) (rec.)	AG-40B-0076	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
TACI (human):Fc (human) (rec.)	AG-40B-0079	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
LIGHT, Soluble (human) (rec.)	AG-40B-0009	CHO cells	<0.01EU/µg (LAL test).	Hu, Ms
LTβR (human):Fc (human) (rec.) (non-lytic)	CHI-HF-220LTBR	CHO cells	<0.06EU/µg (LAL test).	Hu
LTβR (human)-muIg Fusion Protein	ANC-536-020	CHO cells	not determined	Hu
LTβR (human)-muIg Fusion Protein (PF)	ANC-536-820	CHO cells	not determined	Hu
LTβR (human)-muIg Fusion Protein (Biotin)	ANC-536-030	CHO cells	not determined	Hu
LTβR (mouse):Fc (human) (rec.)	AG-40B-0274	HEK 293 cells	<0.01EU/µg (LAL test).	Hu, Ms
IL-35 (human):Fc (human) (rec.)	CHI-HF-21035	CHO cells	<0.06EU/µg (LAL test).	Hu
IL-35 (mouse):Fc (human) (rec.)	CHI-MF-11135	CHO cells	<1EU/mg (LAL test).	Ms

UNIQUE Active 60-mer BAFF Recombinant Protein Construct

Processed human BAFF can either remain as a trimer, which is usual for TNF family ligands or assemble into 60-mer composed of 20 trimers. Mouse BAFF 60-mer has been identified in the serum of BAFF transgenic mice. Oligomerization of BAFF 3-mer into 60-mer in human BAFF is prevented by mutation of His218, a residue critical for 3-mer-to-3-mer interactions, but not for receptor binding. Despite the predominant functional role of processed BAFF *in vivo*, membrane-bound BAFF might also play a role. Indeed, soluble trimeric BAFF can trigger BAFF-R but not TACI or BCMA, whereas oligomeric forms of BAFF (BAFF 60-mer), which mimic membrane-bound BAFF, activate all BAFF receptors [1].

LIT: [1] BAFF 60-mer, and differential BAFF 60-mer dissociating activities in human serum, cord blood and cerebrospinal fluid: M. Eslamy, et al.; Front. Cell Dev. Biol. **8,** 577662 (2020)

BAFF, Soluble (human) (60-mer) (rec.) (highly active)

AG-40B-0112 10 µg | 3 x 10 µg

Source: E. coli

Specificity: Binds to human and mouse BAFF-R, TACI and BCMA. Relative binding affinity (EC_{50}) for BAFF-R (human): ~3 ng/ml.

Activity: Increases B cell survival/proliferation. Increases CD21/CD23 expression on B cells *in vivo*. Activates BAFF-R, TACI and BCMA receptors. Works at concentrations <20 ng/ml.

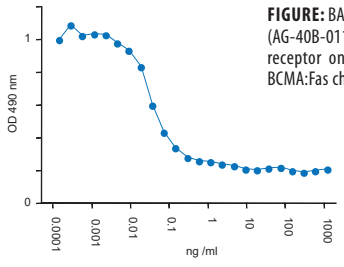


FIGURE: BAFF, Soluble (human) (60-mer) (AG-40B-0112) binds and activates BCMA receptor on Jurkat T cells expressing a BCMA:Fas chimerical receptor.

APPLICATIONS: FACS: Flow Cytometry; **FUNC:** Functional Application; **ICC:** Immunocytochemistry; **IHC:** Immunohistochemistry **IP:** Immunoprecipitation; **WB:** Western blot

FORMULATION: PF = Preservative free

SPECIES: Hu = Human; **Ms** = Mouse; **Rt** = Rat; **Rb** = Rabbit; **Prm** = Primate

Cytokine Crosstalk: How BAFF/APRIL Shape Immune Responses

BAFF and APRIL are central regulators of B cell biology, orchestrating B cell survival, maturation, plasma cell differentiation and antibody production. However, their biological functions extend far beyond their direct signaling through the BAFF-R, TACI and BCMA receptors. Within the immune system, BAFF and APRIL operate as part of a complex cytokine network, engaging in extensive crosstalk with interleukins, interferons, TNF family members, chemokines and other inflammatory mediators. This intricate cytokine crosstalk is essential for maintaining immune homeostasis but, when dysregulated, contributes to the pathogenesis of autoimmune diseases, chronic inflammatory disorders, B cell malignancies and antibody-mediated kidney diseases such as IgA nephropathy.

New InVivoKines™ Available!

InVivoKines™ are a new generation of highly active recombinant Fc-fusion proteins especially for **immunotherapeutic, preclinical and translational *in vivo* research**, developed in-house by AdipoGen Life Sciences. InVivoKines™ are **produced under animal-free conditions** and are also applicable for *in vitro* research.



Validated APRIL/BAFF-Related Proteins: Focus InVivoKines™

PRODUCT NAME	PID	FUNCTION & RELATIONSHIP TO APRIL/BAFF
IL-10 (human):Fc (silent) InVivoKine™	AG-40B-0265	Strong synergy. IL-10 enhances plasma cell survival, immunoglobulin secretion and regulatory B cell functions in cooperation with APRIL.
IL-10 (mouse):Fc (silent) InVivoKine™	AG-40B-0287	
IL-21 (human) (monomer):Fc (silent) InVivoKine™	AG-40B-0258	Strong synergy. IL-21 drives plasma cell differentiation; APRIL/BAFF enhance survival of IL-21-induced plasma cells.
IL-21 (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0250	
IL-4 (human) (monomer):Fc (silent) InVivoKine™	AG-40B-0261	Regulates BAFF responses. IL-4 supports B cell activation and class switching; acts together with BAFF in germinal center reactions.
IL-4 (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0269	
IL-6 (human):Fc (human) (rec.) (non-lytic)	CHI-HF-22006	Strong interaction. IL-6, together with APRIL, maintains long-lived plasma cells and promotes sustained antibody production.
IL-6 (mouse):Fc (human) (rec.)	AG-40B-0108	
IL-17A (human):Fc (human) (rec.) (non-lytic)	CHI-HF-22017A	Upstream inducer. Th17 inflammation increases BAFF production by myeloid and stromal cells; contributes to autoimmune disease.
IL-1β (human) (rec.) (untagged)	AG-40B-0023	Upstream inducer. IL-1β induces BAFF expression in monocytes, macrophages and dendritic cells during innate immune activation.
IL-1β (mouse) (rec.) (untagged)	AG-40B-0086	
IL-1Ra (human) (monomer):Fc (silent) InVivoKine™	AG-40B-0295	Regulatory. Antagonist of IL-1α/β signaling. IL-1Ra reduces BAFF induction in myeloid cells and dampens inflammatory B cell activation.
IL-1Ra (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0254	
IL-18 (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0284	Indirect regulatory. IL-18 enhances inflammatory cytokine production that can increase BAFF expression. IL-18BP indirectly limits BAFF induction, B cell activation and chronic inflammatory responses.
IL-18BP (human) (monomer):Fc (silent) InVivoKine™	AG-40B-0276	
IL-18BP (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0277	
IL-27 (mouse):Fc InVivoKine™	AG-40B-0236	Regulatory. IL-27 can suppress excessive B cell activation and modulate BAFF-dependent responses.
IL-27 (mouse):Fc (silent) InVivoKine™	AG-40B-0249	
IL-35 (human):Fc (human) (rec.)	CHI-HF-21035	Regulatory. IL-35 is an immunosuppressive cytokine that can counteract BAFF-mediated B cell activation.
IL-35 (mouse):Fc (human) (rec.)	CHI-MF-11135	
IFN-β (mouse) (monomer):Fc (silent) InVivoKine™	AG-40B-0280	Upstream inducer. IFN-β promotes BAFF production and enhances antiviral immune responses.
IFN-γ (mouse):Fc (silent) InVivoKine™	AG-40B-0283	Indirect regulator. IFN-γ activates macrophages and dendritic cells, enhancing antigen presentation and promoting BAFF production during chronic inflammation.
TNF-α, Soluble (human) (rec.)	AG-40B-0006	Upstream inducer and synergistic. TNF-α stimulates BAFF production in myeloid and stromal cells, amplifies inflammatory responses and cooperates with BAFF in autoimmune diseases such as rheumatoid arthritis and inflammatory bowel disease.
TNF-α (human) (multimeric) (rec.)	AG-40B-0019	
TNF-α (mouse) (multimeric) (rec.)	AG-40B-0021	

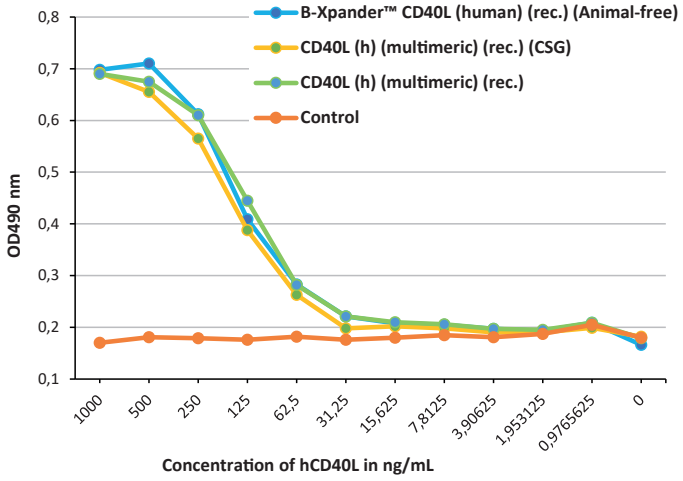
B-Xpander™ – B Cell Expansion (Proliferation)

Interest in B cells has recently increased in immunotherapies using Engineered B cells or Tumor-Infiltrating Lymphocytes (TILs). However, current methods for B cell expansion are inefficient, time consuming and can lead to insufficient B cell numbers and persistent T cell exhaustion. Our B-Xpander™ protein improves current protocols for B cell stimulation by mimicking the natural interaction between CD40L and CD40 molecules on B cells.

B-Xpander™ is a potent enhanced Multimeric human CD40L cytokine, for B cell activation, B cell expansion (proliferation) and cell therapy applications. In-house production using a proprietary protocol and a characterized and certified CHO cell line allows the supply of the most active Multimeric human CD40L proteins in GMP-like format.

B-Xpander™ increases proliferation of human primary CD19⁺ B cells as efficiently as other grades of Multimeric human CD40L. Unlike most recombinant CD40L proteins on the market, our B-Xpander™ and Multimeric CD40L proteins do not need an enhancer (antibody) to multimerize and to be active.

METHOD: Activity of B-Xpander™ and 2 different research grades of Multimeric hCD40L is measured by proliferation of human primary CD19⁺ B cells. Cells (5 x 10^4/well) are grown in RPMI medium, glutamine, 10% FBS, IL-4 (human) (10 ng/ml), IL-21 (human) (10 ng/ml) and different concentrations of B-Xpander™ CD40L (human) (rec.) (Animal-Free) (Prod. No. AG-40B-0010AF), CD40L (human) (multimeric) (rec.) (CSG; Certified Serum Grade) (Prod. No. AG-40B-0010CSG), CD40L (human) (multimeric) (rec.) (Prod. No. AG-40B-0010), or a control protein. Cell proliferation is quantified after 4 days using PMS/MTS (CellTiter 96® AQueous One Solution Cell Proliferation Assay, Promega). Cells expanded by 10-fold after 4 days to reach 5 x 10^5/well.



B-Xpander™ and Multimeric human CD40L Grades for your Experiments

PRODUCT NAME	PID	SPECIFICATIONS / APPLICATIONS
B-Xpander™		
B-Xpander™ CD40L (human) (rec.) (Animal Free)	AG-40B-0010AF	• Produced using animal component-free medium in characterized and certified CHO cells • GMP-like production • *Ex vivo* B Cell Expansion for Cell Therapy
B-Xpander™ CD40L (human) (rec.) (GMP-grade)	Custom Please Inquire	• GMP-Production outsourced to CRO • *Ex vivo* B Cell Expansion for Cell Therapy
Other Research Grades		
CD40L (human) (multimeric) (rec.)	AG-40B-0010	• Produced using standard serum/medium in CHO cells • *Ex vivo* B Cell Expansion for Research Use
CD40L (human) (multimeric) (rec.) (Certified Serum Grade)	AG-40B-0010CSG	• Produced using certified serum/medium in CHO cells for traceability • *Ex vivo* B Cell Expansion for Cell Therapy and Research Use

B-Xpander®: Registered trademark with the U.S. Patent and Trademark Office.

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