

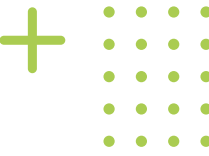
SMMML newsletter

October 2023

Based on data from September 2023

Monthly updates around multiple myeloma

MMsyndiTrack™



The goal of this newsletter is to give an overview of what is happening around multiple myeloma in terms of medical developments. This is achieved by monitoring news articles, PR releases and scientific reports on one hand. Conversations from HCPs, digital opinion leaders and other influencers attending congresses, offering their opinion on treatments and commenting on new developments on the other hand.



Who will benefit from this newsletter?

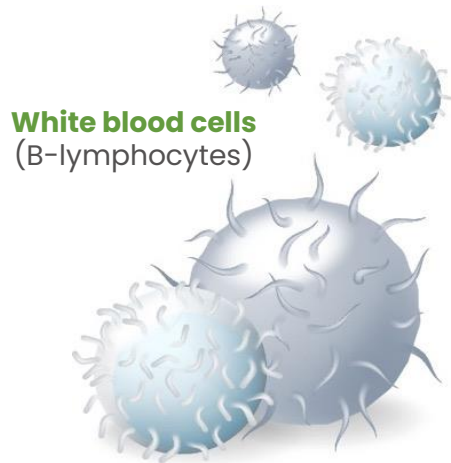
Any professionals interested in keeping up with developments around multiple myeloma:

- Marketers
- Business Analysts
- But also HCPs who want to anticipate the future landscape of MM management



Introduction on Multiple Myeloma

What is Multiple Myeloma?



70
YEARS



Read more on Multiple Myeloma:



→ [Professional version in English](#)

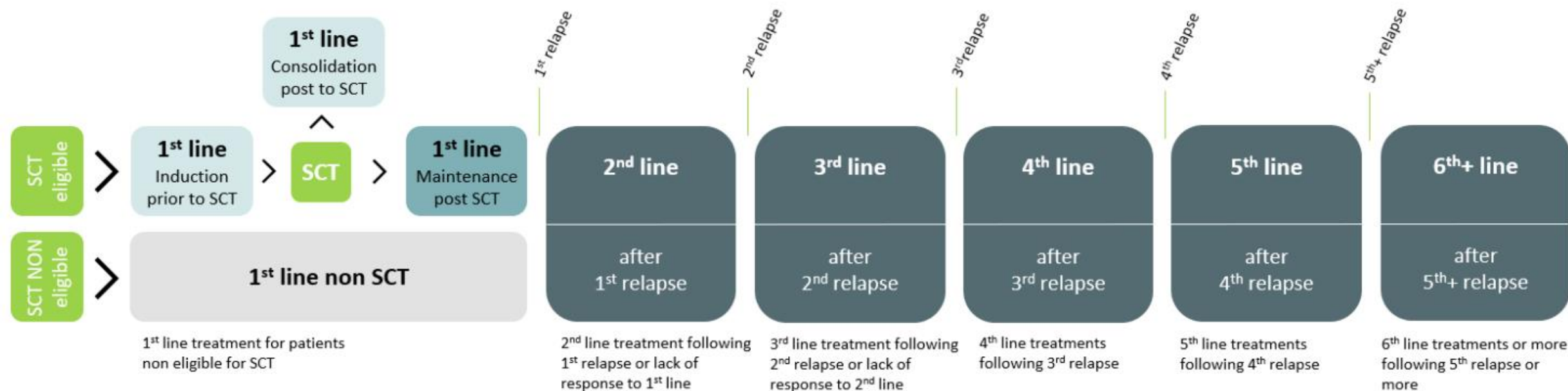
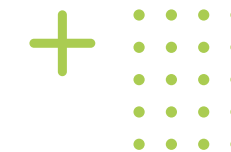
→ [Professional version in French](#)



→ [Consumer version in English](#)

→ [Consumer version in French](#)

MM lines of therapy based on to the following definitions



1st line Induction prior SCT

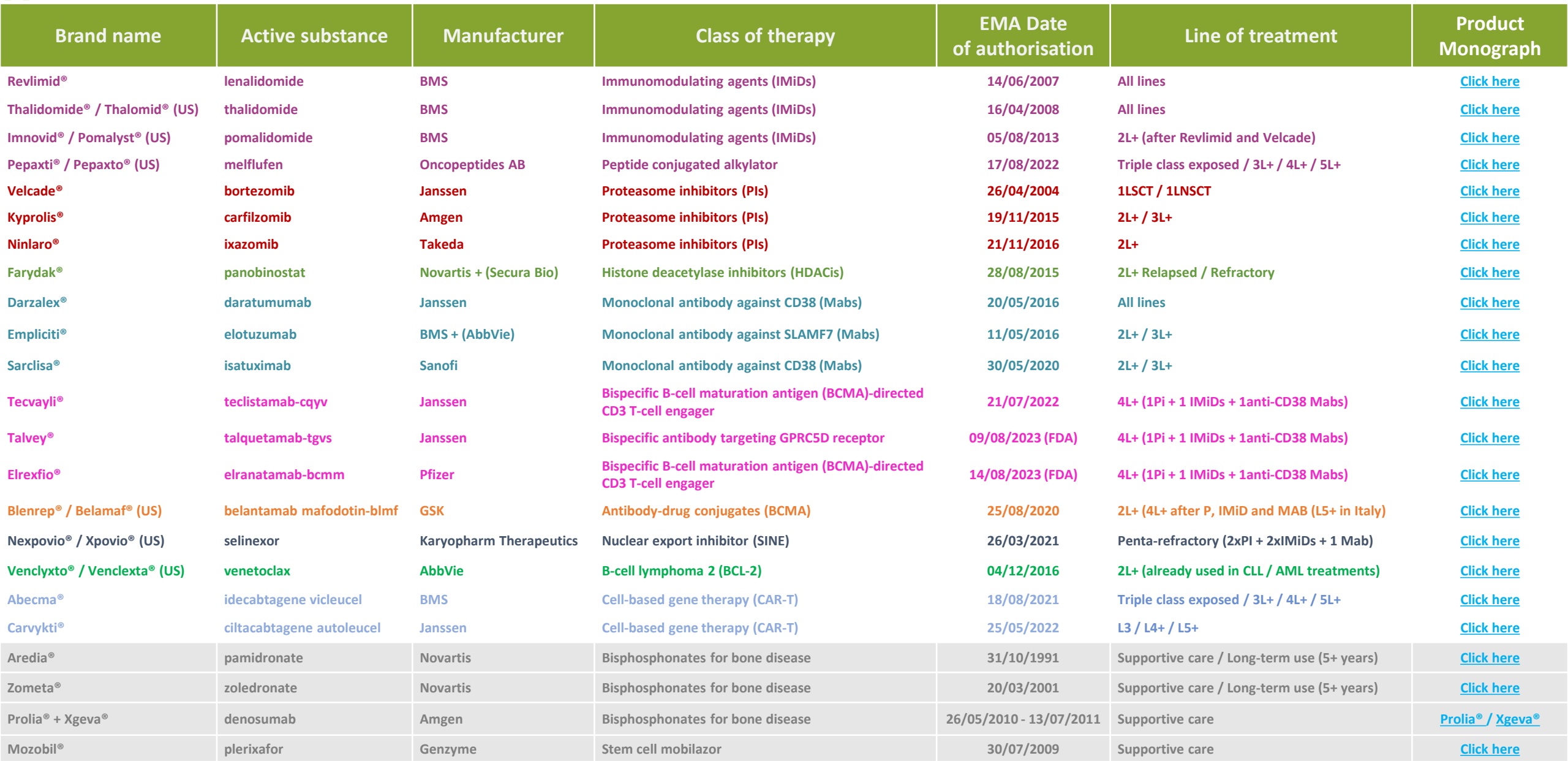
For stem cell candidates, the first step to gain a response to reduce the tumor burden before SCT. Please note that patients who received more than one SCT are considered to be in “1st line prior to stem cell transplant” for the latest SCT procedure planned. For instance, should a patient receive an induction treatment prior to a 2nd SCT, he should be considered as a 1st line transplant patient.

1st line Consolidation post SCT

1st line therapy **after** stem cell transplant to **deepen the response** achieved by adding a **short course** of full dose therapy.

1st line Maintenance post SCT

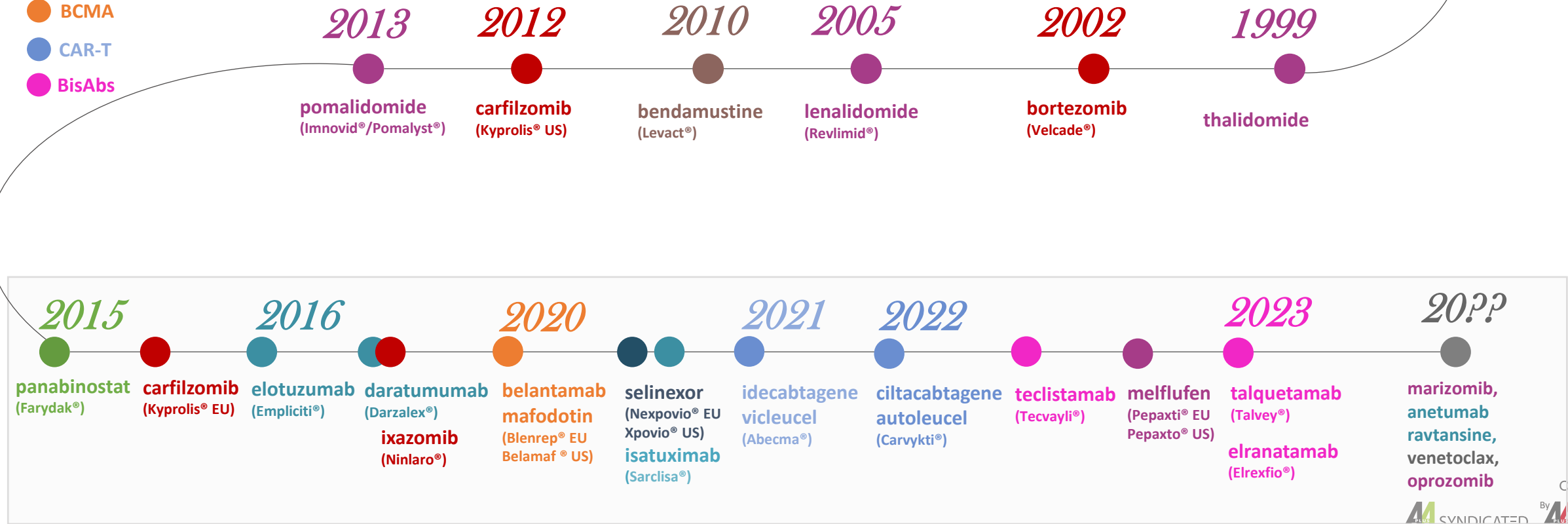
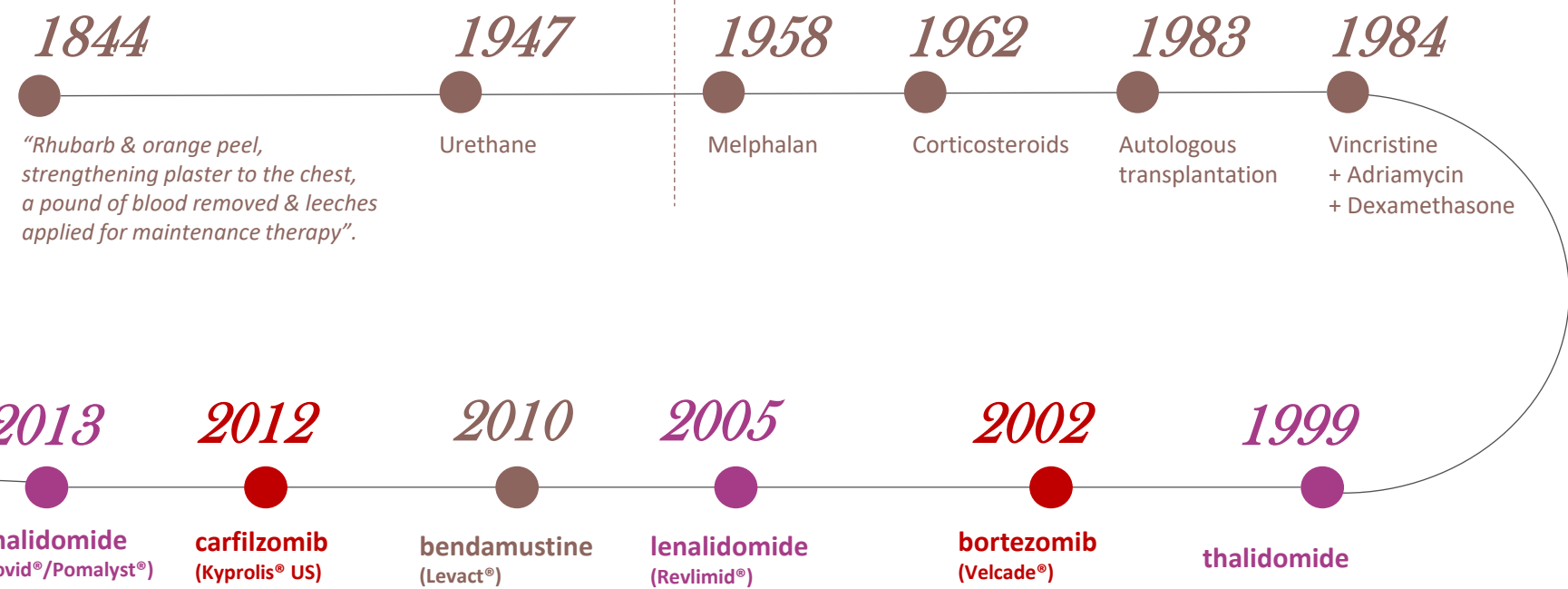
1st line therapy **after** stem cell transplant to **sustain the quality of the response** achieved by adding a long course – from several months up to disease progression – of reduced dose therapy.



MM treatment history timeline



- IMiDs
- PIs
- IMS
- Mabs
- HDACi
- SINE
- BCMA
- CAR-T
- BisAbs





16+
YEARS

17+
COUNTRIES OVER TIME

UP
TO **90**
HCPs
per wave
per country

UP
TO **4**
WAVES
per year

4,5k
PATIENTS CHARTS
per wave

18k
PATIENTS CHARTS
per year (in EU5)

What's new **MMsyndiTrack™**

Launching of a US pilot wave, Why ?

- Needs from clients for MM US data
- Back data for EU5 for 15 years
- MM US market changing fast
- Different needs in the US market for labs (patients' ethnicity treatments gap as an example)
- **Japan data soon available**

APLUSA's added value

- Quarterly + month to month data collection (our competitors → only quarterly data)
- Market adaptability: adjusting our questionnaires and updating the list of treatments by including market trends on a monthly basis → **new CAR-Ts + BisAbs**
- Patient's full treatment history
- Deliverables with Power BI DID



S e p t e m b e r 2 0 2 3



● CONTENTS

01.

News around clinical trials in phase II

- Phase II relapse/refractory : CAR-T

02.

News around clinical trials in Phase III

- Phase III relapse/refractory : doublet therapy
- Phase III relapse/refractory : CAR-T

03.

Themes of discussion : HCPs

- SOV Themes of discussion
- Posts driving most engagement
- Focus on #IMS2023

04.

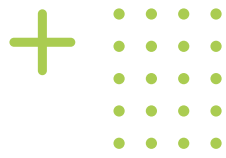
News articles overtime

- Volume of articles per volume of mentions
- Articles per themes

05.

Market watch

- Market watch



SCOPE



The scope of the analysis is focused on mentions coming **worldwide**.*



There were a total of **32K** mentions from patients recorded during the listening period from **September 1st, 2023**, to **September 30th, 2023**.



A majority of mentions came from **News (formerly Twitter) (49%)**, **X (formally known as Twitter) (44%)**, **Forums (2%)**, **Instagram (2%)**, **Reddit (2%)** and **Blogs (1%)**.



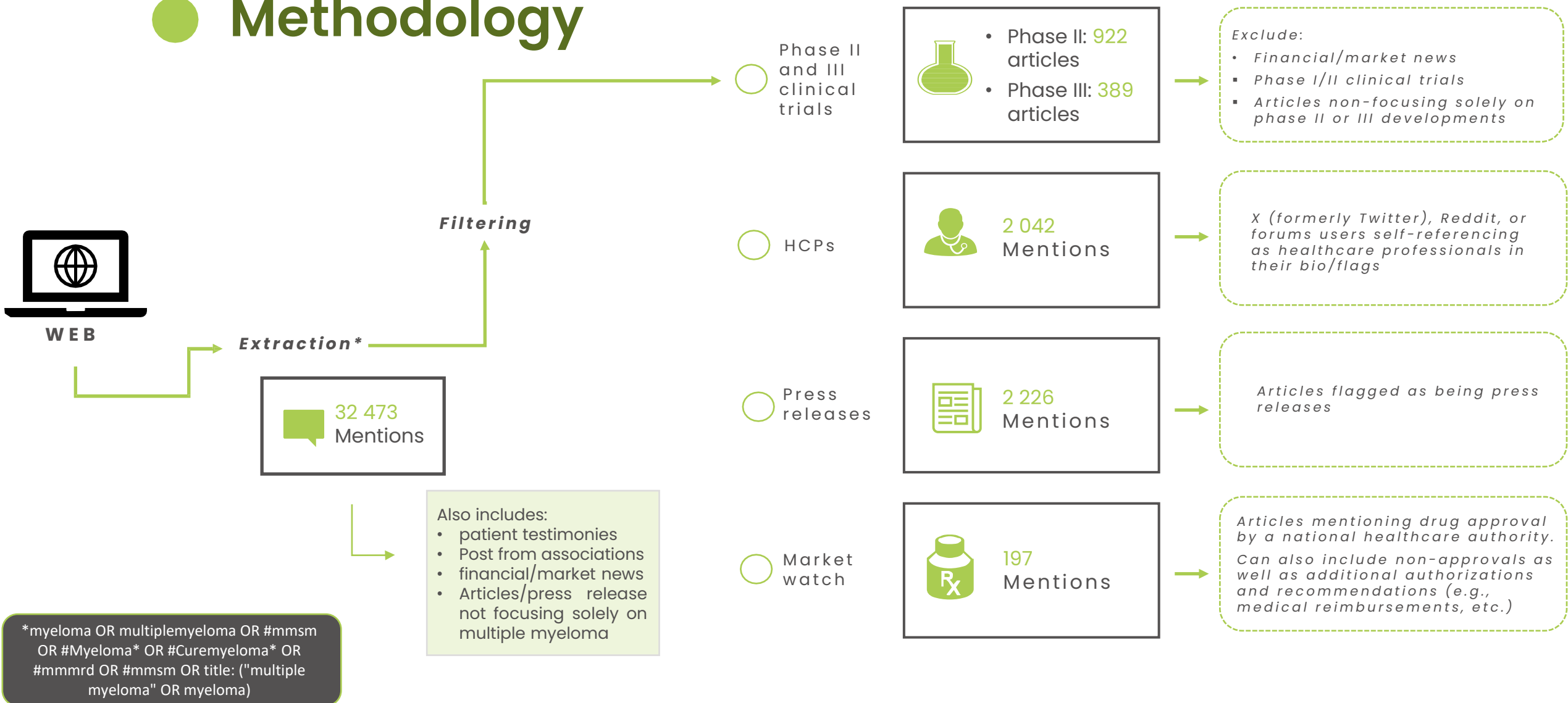
A total of **9K** unique authors were identified.

*myeloma OR multiplemyeloma OR #mmsm
OR #Myeloma* OR #Curemyeloma* OR
#mmmr OR #mmsm OR title: ("multiple
myeloma" OR myeloma)



Social media listening period : September 2023
Scope: worldwide in English

Methodology



Drugs in clinical trials (Phase II) monitored during the listening period				
Molecule name	Commercial name	Class	Manufacturer	Trial names + link (ctrl + right click) / line of treatment / Combination being studied
lenalidomide	Revlimid®	immunomodulatory drugs (IMiDs)	BMS	GRIFFIN (ND): daratumumab, lenalidomide, bortezomib, and dexamethasone (D-RVd); FORTE (ND): carfilzomib, lenalidomide, daratumumab, dexamethasone; NCT02969837 (ND): elotuzumab, carfilzomib, lenalidomide, dexamethasone; MASTER (/): dexamethasone, lenalidomide, daratumumab, carfilzomib
pomalidomide	Imnovid® / Pomalyst® (US)	immunomodulatory drugs (IMiDs)	BMS	NCT03590652 (RR): daratumumab, ixazomib, pomalidomide, dexamethasone; ELOQUENT-3 (RR): elotuzumab plus pomalidomide, and dexamethasone
Bortezomib	Velcade®	Proteasome inhibitors	Takeda	GRIFFIN (ND): daratumumab, lenalidomide, bortezomib, and dexamethasone (D-RVd); NCT03314181 (RR): Venetoclax, Daratumumab and Dexamethasone (With and Without Bortezomib)
carfilzomib	Kyprolis®	Proteasome inhibitor	Amgen	FORTE (ND): carfilzomib, lenalidomide, daratumumab, dexamethasone; NCT02969837 (ND): elotuzumab, carfilzomib, lenalidomide, dexamethasone; MASTER (/): dexamethasone, lenalidomide, daratumumab, carfilzomib Cardamon (/) : cyclophosphamide, dexamethasone, carfilzomib
daratumumab	Darzalex®	Monoclonal antibody anti-CD38	Janssen	GRIFFIN (ND): daratumumab, lenalidomide, bortezomib, and dexamethasone (D-RVd); FORTE (ND): carfilzomib, lenalidomide, daratumumab, dexamethasone; NCT03590652 (RR): daratumumab, ixazomib, pomalidomide, dexamethasone REBUILD (RR): Monotherapy; NCT03314181 (RR): Venetoclax, Daratumumab and Dexamethasone (With and Without Bortezomib); MASTER (/): dexamethasone, lenalidomide, daratumumab, carfilzomib ; RedirectT-1 (RR): Teclistamab, talquetamab, daratumumab (Note: Phase I/II currently in phase IB)
elotuzumab	Empliciti®	Monoclonal antibody SLAMF7	BMS/AbbVie	ELOQUENT-3 (RR): elotuzumab plus pomalidomide, and dexamethasone ; NCT02969837 (ND): elotuzumab, carfilzomib, lenalidomide, dexamethasone
isatuximab	Sarclisa®	Monoclonal antibody anti-CD38	Sanofi	NCT05123131 (ND): isatuximab, bortezomib, lenalidomide, dexamethasone; NCT03590652 (RR): daratumumab, ixazomib, pomalidomide, dexamethasone
belantamab mafodotin, (GSK2857916)	Blenrep®	Antibody drug–conjugate (ADC)	GSK	DREAMM-2 (RR): Monotherapy
cesnicabtagene autoleucl (ARI0002h)	N/A	Humanised CAR T-Cell Therapy Anti-BCMA	N/A	NCT04309981 (RR): Monotherapy
ciltacabtagene (cilta cel, JNJ 68284528)	Carvykti®	CAR T-Cell Therapy Anti-BCMA	Janssen	CARTITUDE (RR): Monotherapy; CARTITUDE 2 (RR): Monotherapy
equecabtagene Autoleucl	FUCASO®	Humanised CAR T-Cell Therapy Anti-BCMA	IASO Bio + Innovent	FUMANBA-1 (RR): Monotherapy
idecabtagene vicleucl (ide cel)	Abecma®	CAR T-Cell Therapy Anti-BCMA	BMS	KarMMA-2 (RR): Monotherapy (one arm with lenalidomide) ; BMTCTN1902 (/): Monotherapy
zevorcabtagene autoleucl (zevor cel)	N/A	CAR T-Cell Therapy Anti-BCMA	CARsgen Therapeutics	LUMMICAR-2 (RR): Monotherapy
C-CAR088	N/A	CAR T-Cell Therapy Anti-BCMA	Cellular Biomedicine	NCT05521802 (RR): Monotherapy
CART-ddBCMA	N/A	CAR T-Cell Therapy Anti-BCMA	Arcellx, Inc	NCT05396885 (RR): Monotherapy
NXC-201	N/A	CAR T-Cell Therapy Anti-BCMA	Nexcella	NCT04720313 (RR): Monotherapy
teclistamab	Tecvayli®	Bispecific Antibody anti-BCMA	Janssen	MajesTEC-1 (RR): Monotherapy; RedirectT-1 (RR): Teclistamab, talquetamab, daratumumab
talquetamab	N/A	Bispecific antibody T-cell redirecting	Janssen	MonumenTAL-1 (RR): Monotherapy; RedirectT-1 (RR): Teclistamab, talquetamab, daratumumab
elranatamab (PF-06863135)	Elrexfio®	Bispecific Antibody anti-BCMA x Anti-CD3	Pfizer	MagnetisMM-9 (RR): Monotherapy; MagnetisMM-3 (RR): Monotherapy
REGN5458	N/A	Bispecific Antibody anti-BCMA x Anti-CD3	Regeneron	LINKER-MM1 (RR): Monotherapy (Note: phase I/II)
lopofosine	N/A	small-molecule PDC	Collectar	Clover 1 (/)
mezigdomide (CC-92480)	N/A	CELMoD	BMS	NCT03374085 (RR): monotherapy and in combination with dexamethasone
venetoclax	Venclyxto®	BCL-2	AbbVie	NCT03314181 (RR): Venetoclax, Daratumumab and Dexamethasone (With and Without Bortezomib)



Phase II Relapse/Refractory CAR-T: Innovovent and IASO Bio Present Updated Long-Term Follow-Up Data for BCMA CAR-T FUCASO® (Equecabtagene Autoleucel) at IMS 2023



Headlines/Hot off the press

“Innovent and IASO Bio Present Updated Long-Term Follow-Up Data for BCMA CAR-T FUCASO® (Equecabtagene Autoleucel) at IMS 2023”

“Innovent Biologics, Inc. a world-class biopharmaceutical company that develops, manufactures and commercializes high-quality medicines for the treatment of oncology, metabolic, autoimmune, ophthalmology and other major diseases, and IASO Bio, a biopharmaceutical company engaged in discovering, developing, manufacturing and marketing innovative cell therapies and antibody products, today announced updated long-term follow-up data from two studies for BCMA CAR-T: (1) Results from phase 1b/2 study (FUMANBA-1) in patients with relapsed/refractory multiple myeloma (RRMM) treated with Equecabtagene Autoleucel (Abstract Code P-290) and (2) A model to predict the risk of prolonged thrombocytopenia recovery in relapsed/refractory multiple myeloma patients after anti-BCMA CAR-T Treatment (Abstract Code P-288) at the 2023 International Myeloma Society (IMS) Annual Meeting in Vienna on September 27-30, 2023.” Click [here](#) to read the full article

FUMANBA-1

Ctrl + click to access clinical trial: [NCT05066646](#)

“A Phase 1/2 Study of a Fully Human BCMA-targeting CAR (CT103A) in Patients With Relapsed/Refractory Multiple Myeloma”



Sponsor



Molecule

Equecabtagene Autoleucel



Drugs in clinical trials (Phase III) monitored during the listening period				
Molecule name	Commercial name	Class	Manufacturer	Trial names + link (ctrl + right click) / line of treatment / Combination being studied
lenalidomide	Revlimid®	immunomodulatory drugs (IMiDs)	BMS	DETERMINATION (RR): lenalidomide (Revlimid), bortezomib (Velcade), and dexamethasone (RVD) MAIA (ND): daratumumab in combination with lenalidomide and dexamethasone ATLAS (Maintenance): Lenalidomide, Carfilzomib, Dexamethasone DRAMMATIC (/): Lenalidomide, Daratumumab EQUATE (ND): daratumumab, bortezomib, lenalidomide and dexamethasone POLLUX (RR): Daratumumab, Lenalidomide, and Dexamethasone TOURMALINE-MM1 (RR): Ixazomib Plus Lenalidomide and Dexamethasone TOURMALINE-MM2 (ND): Ixazomib Plus Lenalidomide and Dexamethasone Myeloma XI (ND): cyclophosphamide, dexamethasone plus lenalidomide with or without carfilzomib AURIGA (Maintenance): Daratumumab Plus Lenalidomide
pomalidomide	Imnovid® / Pomalyst® (US)	immunomodulatory drugs (IMiDs)	BMS	ICARIA-MM (RR): Isatuximab, Pomalidomide, Dexamethasone
bortezomib	Velcade®	Proteasome inhibitors (PIs)	Takeda	DETERMINATION (RR): lenalidomide (Revlimid), bortezomib (Velcade), and dexamethasone (RVD) BOSTON (RR): selinexor plus bortezomib (Velcade) plus low-dose dexamethasone (SVd) EQUATE (ND): daratumumab, bortezomib, lenalidomide and dexamethasone CASTOR (RR): Daratumumab, Bortezomib and Dexamethasone Bellini (RR): venetoclax plus bortezomib and dexamethasone DREAMM 7 (RR): Belantamab Mafodotin, Bortezomib and Dexamethasone
carfilzomib	Kyprolis®	Proteasome inhibitors (PIs)	Amgen	IKEMA (RR): Isatuximab, Carfilzomib And Dexamethasone ATLAS (Maintenance): Carfilzomib, Lenalidomide, Dexamethasone Myeloma XI (ND): cyclophosphamide, dexamethasone plus lenalidomide with or without carfilzomib
ixazomib	Ninlaro®	Proteasome inhibitors (PIs)	Takeda	OPTIMUM (RR): Ixazomib, Lenalidomide TOURMALINE-MM1 (RR): Ixazomib Plus Lenalidomide and Dexamethasone TOURMALINE-MM2 (ND): Ixazomib Plus Lenalidomide and Dexamethasone
Bb2121, Idecabtagene vicleucel	Abecma®	CAR T-cell therapy	BMS	KarMMa-3 (RR): Monotherapy
ciltacabtagene	Carvykti®	CAR T-cell therapy BCMA-directed	Janssen	CARTITUDE-4 (RR): Monotherapy
daratumumab	Darzalex®	Monoclonal antibody anti-CD38	Janssen	MajesTEC-3 (RR): Teclistamab in Combination With Daratumumab Subcutaneously (SC) (Tec-Dara) MAIA (ND): daratumumab in combination with lenalidomide and dexamethasone DRAMMATIC (/): Lenalidomide, Daratumumab EQUATE (ND): daratumumab, bortezomib, lenalidomide and dexamethasone CASTOR (RR): Daratumumab, Bortezomib and Dexamethasone POLLUX (RR): Daratumumab, Lenalidomide, and Dexamethasone MagnetisMM-5 (RR): Monotherapy or doublet therapy with daratumumab AURIGA (Maintenance): Daratumumab Plus Lenalidomide
isatuximab	Sarclisa®	Monoclonal antibody anti-CD38	Sanofi	IKEMA (RR): Isatuximab, Carfilzomib And Dexamethasone ICARIA-MM (RR): Isatuximab, Pomalidomide, and Dexamethasone
belantamab mafodotin-blmf	Blenrep® / Belamaf® (US)	Antibody-drug conjugates (BCMA)	GSK	DREAMM-3 (RR): Monotherapy DREAMM 7 (RR): Belantamab Mafodotin, Bortezomib and Dexamethasone DREAMM 8 (RR): Belantamab Mafodotin Plus Pomalidomide and Dexamethasone
teclistamab	N/A	Bispecific Antibody anti-BCMA	Janssen	MajesTEC-3 (RR): teclistamab, daratumumab Subcutaneously (SC) (Tec-Dara)
elranatamab (PF-06863135)	Elrexfio®	Bispecific Antibody anti-BCMA x Anti-CD3	Pfizer	MagnetisMM-5 (RR): Monotherapy or doublet therapy with daratumumab; MagnetisMM-7 (ND): Monotherapy
Melphalan flufenamide	melflufen, Pepaxto, pepaxti	peptide conjugated alkylating	Oncopeptides AB	QCEAN (RR) :Monotherapy
venetoclax	Venclyxto	BCL-2	AbbVie	Bellini (RR): venetoclax plus bortezomib and dexamethasone CANOVA (RR): venetoclax plus Dexamethasone



Phase III Relapse/Refractory Doublet Therapy: Data did not demonstrate that the treatment combination significantly improved progression-free survival (PFS), the primary endpoint of the trial.



Headlines/Hot off the press

“ AbbVie Presents Results from Phase 3 CANOVA Study of Venetoclax in Patients with Relapsed or Refractory Multiple Myeloma ”

“AbbVie today announced data from its Phase 3 CANOVA study evaluating the safety and efficacy of venetoclax (VENCLEXTA®/ VENCLYXTO®) plus dexamethasone (VenDex) for patients with t(11;14)-positive relapsed or refractory (R/R) multiple myeloma who have received two or more prior treatments. **Data did not demonstrate that the treatment combination significantly improved progression-free survival (PFS)**, the primary endpoint of the trial. Patients receiving VenDex showed improvement in median PFS of 9.9 months compared to 5.8 months with the combination of study comparator pomalidomide and dexamethasone (PomDex); however, the results did not reach statistical significance [HR = 0.823, 95% CI: (0.596, 1.136); p-value of 0.237].” Click [here](#) to read the full article

CANOVA

Ctrl + click to access clinical trial: [NCT03539744](#)

“A Study Designed to Evaluate the Safety and Efficacy of Venetoclax Plus Dexamethasone (VenDex) Compared With Pomalidomide Plus Dexamethasone (PomDex) in Participants With t(11;14)-Positive Relapsed or Refractory Multiple Myeloma.”

Sponsor

abbvie

Combinations

venetoclax + dexamethasone





Phase III Relapse/Refractory CAR-T: 2seventy bio Announces Strategic Restructuring to Prioritize Growth of Abecma, Streamline Pipeline Advancement and Preserve Financial Runway



Headlines/Hot off the press

“

2seventy bio Announces Strategic Restructuring to Prioritize Growth of Abecma, Streamline Pipeline Advancement and Preserve Financial Runway

”

“Approximately 40% workforce reduction combined with related actions expected to achieve \$130+ million savings in the 2024-2025” Click [here](#) to read the full article

Sponsor

2seventybio™

+

 **Bristol Myers Squibb™**

KarMMA-3

Ctrl + click to access the clinical trial : [NCT03651128](#)

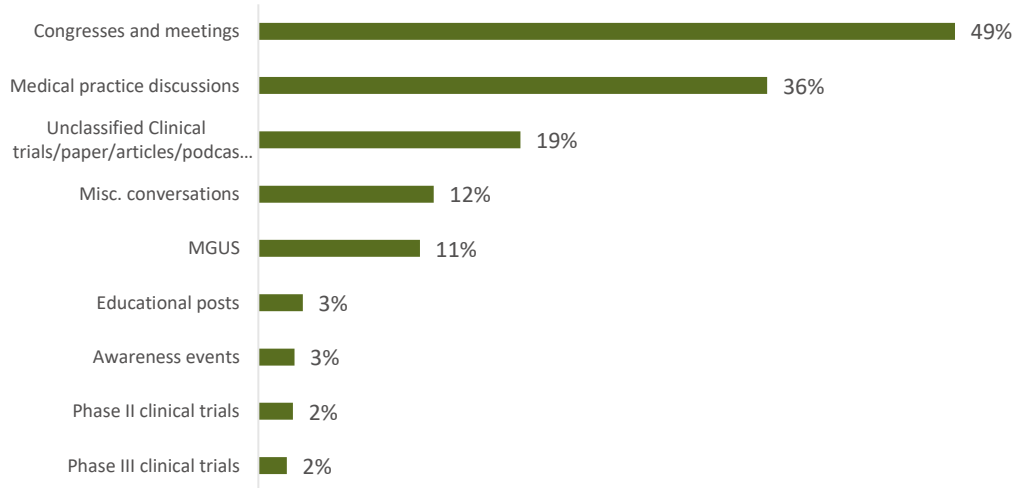
“Efficacy and Safety Study of bb2121 Versus Standard Regimens in Subjects With Relapsed and Refractory Multiple Myeloma (RRMM) (KarMMA-3)”

Molecule

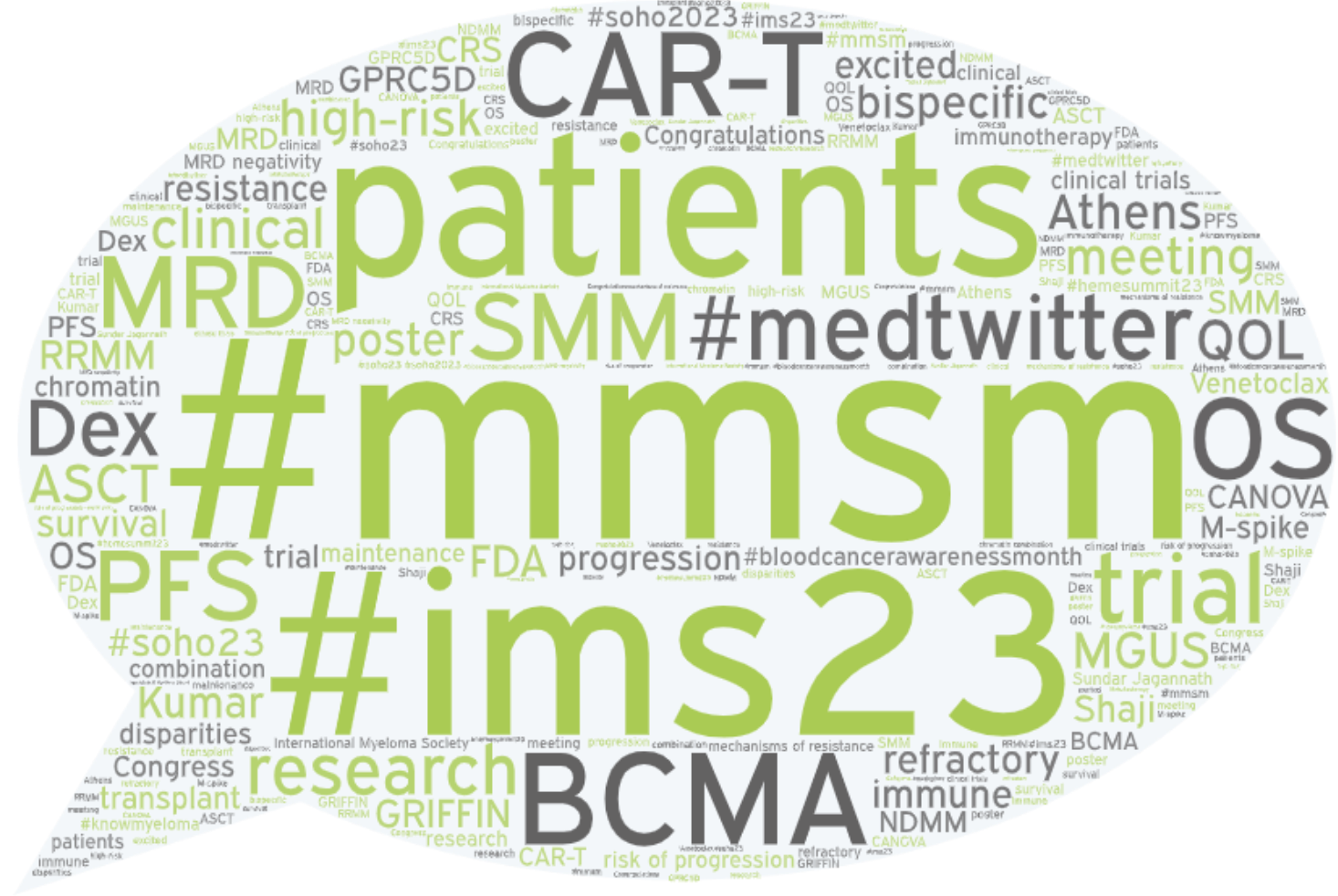
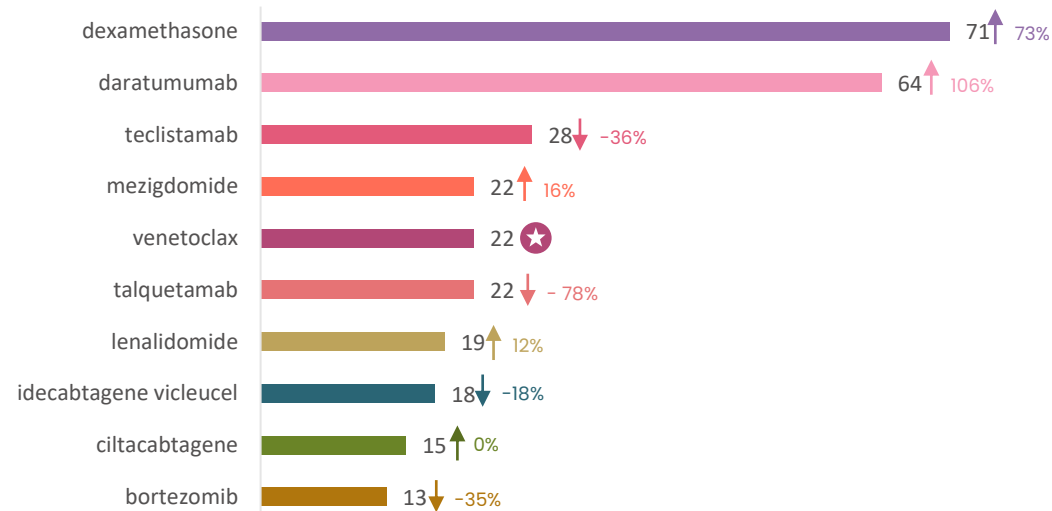
idecabtagene vicleucel



SOV topics of conversations



SOV molecules



Engagement was shared between Drs. Abbasi, Rajkumar and Hadidi who posted about personal achievements, educational posts as well as a new tool aimed at helping track disease progression.

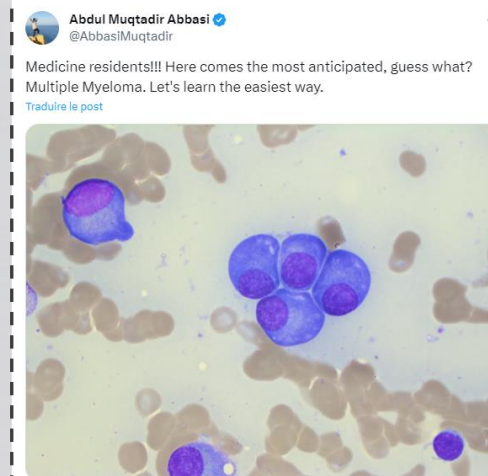
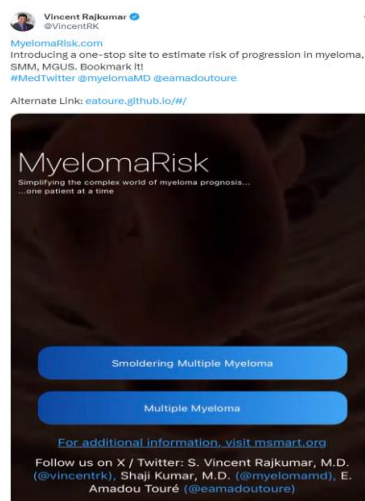
Dr. Rajkumar introduced a website [MyelomaRisk](#) that aims at helping estimate the risk of progression in Myeloma, smoldering multiple myeloma and MGUS.

Dr. Hadidi received the young investigators award at IMS2023 for work he did on secondary malignancies in long term patients. AL summary of this work can be found [here](#).

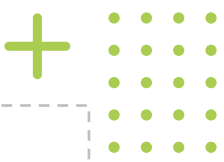
Dr. Abbasi posted a series of educational posts about what is multiple myeloma. This is aimed at medical residents.

Most engagement

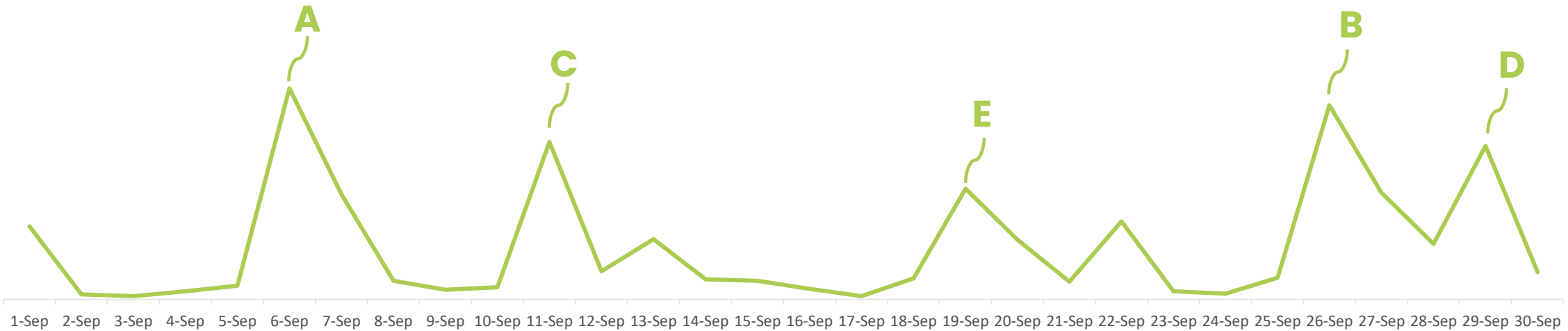
Most retweeted, liked and replied to (Ctrl + right click to access tweets)



Media (press releases): volume and articles per peak



Volume of articles overtime



A "Multiple Myeloma Story Applied **Cells Opens CellQuest Research Grant** to Accelerate Cutting-Edge Multiple Myeloma Research". [Link](#)

"**Multiple Myeloma March** returns to **Cornwall** Sept. 9" [Link](#)

"**Gracell Biotechnologies** to Present Updated Clinical Data on BCMA/CD19 Dual-Targeting **FastCAR-T GC012F** in Newly Diagnosed Multiple Myeloma at the 2023 International Myeloma Society Annual Meeting" [Link](#)

"**Immune system** plays vital role in **longer multiple myeloma remission**, new study shows" [Link](#)

B "**Gracell Biotechnologies** Doses First Patient in Phase 1b/2 Clinical Trial in U.S. Evaluating **GC012F** for Treatment of Relapsed/Refractory Multiple Myeloma" [Link](#)

"**Janssen Launches National Campaign** to Recognize and Increase Support for Advanced Practice Providers Who Care for People Living with Multiple Myeloma" [Link](#)

"**Karyopharm** to Present **Selinexor** Data at the **2023 International Myeloma Society Annual Meeting** and European Society of Gynaecological Oncology 2023 Annual Meetings" [Link](#)

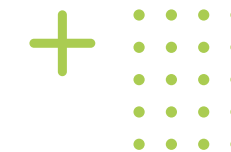
C "9/11 and cancer: NJ patients struggle with myeloma years after exposure to Ground Zero" [Link](#)

C (continued)
"**BioLineRx** Announces FDA Approval of APHEXDA™ (motixafortide) in Combination with Filgrastim (G-CSF) to Mobilize Hematopoietic Stem Cells for Collection and Subsequent Autologous Transplantation in Patients with Multiple Myeloma" [Link](#)

D "**AbbVie** Presents Results from Phase 3 **CANOVA** Study of Venetoclax in Patients with Relapsed or Refractory Multiple Myeloma" [Link](#)

"**Mezigdomide** Combos **Yield Encouraging Responses in R/R Multiple Myeloma**" [Link](#)

E "Institute for Myeloma & Bone Cancer Research Announces Publication in Targeted Oncology" [Link](#)



B-cell lymphoma 2 (BCL-2) inhibitor

"**AbbVie** Presents Results **from Phase 3 CANOVA** Study of Venetoclax in Patients with Relapsed or Refractory Multiple Myeloma" [Link](#)

CAR-T

"**Gracell Biotechnologies** to Present Updated Clinical Data on BCMA/CD19 Dual-Targeting **FasTCAR-T GC012F** in Newly Diagnosed Multiple Myeloma at the 2023 International Myeloma Society Annual Meeting" [Link](#)

"**Gracell Biotechnologies** Doses First Patient in Phase 1b/2 Clinical Trial in U.S. Evaluating **GC012F** for Treatment of Relapsed/Refractory Multiple Myeloma" [Link](#)

CELMoD

"**Mezigdomide** Combos **Yield Encouraging Responses in R/R Multiple Myeloma**" [Link](#)

Cyclic-peptide CXCR4 inhibitor

"**BioLineRx** Announces FDA Approval of APHEXDA™ (motixafortide) in Combination with Filgrastim (G-CSF) to Mobilize Hematopoietic Stem Cells for Collection and Subsequent Autologous Transplantation in Patients with Multiple Myeloma" [Link](#)

Nuclear export inhibitor (SINE)

"**Karyopharm** to Present **Selinexor** Data at the 2023 **International Myeloma Society Annual Meeting and European Society of Gynaecological Oncology 2023 Annual Meetings**" [Link](#)

HCPs/research support

"**Janssen Launches National Campaign** to Recognize and Increase Support for Advanced Practice Providers Who Care for People Living with Multiple Myeloma" [Link](#)

"Multiple Myeloma Story Applied **Cells Opens CellQuest Research Grant** to Accelerate Cutting-Edge Multiple Myeloma Research". [Link](#)

Patient support

"**Multiple Myeloma March** returns to **Cornwall** Sept. 9" [Link](#)

"9/11 and cancer: NJ patients struggle with myeloma years after exposure to Ground Zero" [Link](#)

Research

"**Immune system** plays vital role in **longer multiple myeloma remission**, new study shows" [Link](#)

"Institute for Myeloma & Bone Cancer Research Announces Publication in Targeted Oncology" [Link](#)

Drug Market Watch

September 2023

NICE

National Institute for
Health and Care Excellence

“ The combination therapy, **DRT**, has ”
been **approved for use in England
and Wales** for those with myeloma
who are not eligible for a stem cell
transplant [Link](#)



“ BioLineRx Announces FDA Approval of
APHEXDA™ (motixafortide) in Combination
with **Filgrastim** (G-CSF) to Mobilize
Hematopoietic Stem Cells for Collection and
Subsequent Autologous Transplantation in
Patients with Multiple Myeloma [Link](#) ”



“ Pioneering treatment that could
keep myeloma at bay for five
years approved [Link](#) ”

The treatment combines three drugs – **daratumumab (Darzalex®)**, **lenalidomide (Revlimid®)** and **dexamethasone (DRD)** – and is aimed at newly-diagnosed myeloma patients who are not eligible for a stem cell transplant.