Report Bimzelx® - Bimekizumab

Product & Mechanism of action

Substance: Bimekizumab

Brand Name: Bimzelx®

Originator/licensee: UCB Pharma S.A.

Classification: NCE

ATC code: L04AC21

Orphan Status:
Eu: No
Us: -

Mechanism of action: Bimekizumab is arecombinant humanised IgG1 monoclonal antibody that works by inhibiting IL-17A and IL-17F signalling[1].

Authorized indications Licensing status

Authorized Indication:
EMA: Bimekizumab is indicated for the treatment of MSPP in adults who are candidates for systemic therapy [1].

Route of administration: SC

Licensing status
EU CHMP P.O. date: 24/06/2021
FDA M.A. date: -

EU Speed Approval Pathway: No

ABBREVIATIONS:
ADA:Adalimumab
Adj.:Adjusted
AE:Adverse event
BIM: Bimekizumab
CHMP:Committee for Medicinal Products for Human Use
CI: Confidence Interval
IGA: Investigator's Global Assessment
IL: Interleukin
M.A.: Marketing Authorization
P.O.: Positive Opinion
MSPP:Moderate-to-Severe Plaque Psoriasis
PASI90: 90% or greater improvement from baseline in the PASI
pts:patients
Q4W: Every four weeks
Q8W: Every eight weeks
RD: Risk Difference
SC: Subcutaneous
TEAE:Treatment-emergent AE
URTI:Upper respiratory tract infection
UST: Ustekinumab

Essential therapeutic features

Summary of clinical EFFICACY:

BE READY trial (NCT03410992): is a phase 3, multicentre, randomised, double-blind, placebo-controlled trial; 435 adults (≥18 yrs) with MSPP were randomly assigned (4:1) to receive BIM 320 mg Q4W (n = 349) or placebo (n=86) for initial treatment. Coprimary endpoints were the proportion of pts achieving PASI90 and an IGA score of 0 or 1*, both at week 16. At week 16, PASI90 was achieved by 317 (91%) pts in the BIM group vs. one (1%) in the placebo group (RD 89.8 [95% CI 86.1-93.4] p<0.0001). An IGA score of 0 or 1 was achieved by 323 (93%) BIM arm vs. one (1%) in the placebo arm (RD 91.5 [95% CI 88.0-94.9] p<0.0001) [2].

BE VIVID trial (NCT03370133): is a phase 3, multicentre, randomised, double-blind, active comparator and placebo-controlled trial where 567 adult pts with MSPP were randomly assigned (4:2:1) to receive BIM 320 mg Q4W (n=321), UST 45 mg or 90 mg at weeks 0 and 4, then Q12W (n= 163), or placebo Q4W (n=83). The coprimary efficacy endpoints were the proportion of pts achieving PASI90 and an IGA score of 0 or 1, both at week 16. 273 (85%) pts in the BIM group had PASI90 at week 16, compared with 81 (50%) in the UST group (RD 35 [95%CI 27-43] p<0.0001) and four (5%) in the placebo group (RD 80 [95% CI 74-86] p<0.0001). 270 (84%) pts receiving BIM had an IGA response at week 16, compared with 87 (53%) receiving UST (RD 30 [95% CI 22-39] p<0.0001) and four (5%) of 83 receiving placebo (RD 79 [95% CI 73-85]; p<0.0001) [3].

BE SURE trial (NCT03412747): is a phase 3, multicentre, randomised, double-blind trial; 478 adults with MSPP were randomly assigned in a 1:1:1 ratio to receive SC BIM 320 mg Q4W for 56 weeks (n=158); SC BIM 320 mg Q4W for 16 weeks then Q8W for weeks 16 to 56 (n=161); or SC ADA 40 mg Q2W for 24 weeks, followed by BIM 320 mg Q4W to week 56 (n=159). The primary endpoints were the proportion of pts achieving PASI90 and an IGA score of 0 or 1, both at week 16. 275 pts (86.2%) who received BIM and 75 (47.2%) who received ADA had a PASI90 response (adj. RD, 39.3 [95% CI 30.9-47.7] p<0.001). A total of 272 (85.3%) pts who received BIM and 91 (57.2%) who received ADA had an IGA score of 0 or 1 (adj. RD, 28.2 [95% CI, 19.7-36.7] p<0.001) [4].

✤Efficacy results refer to weeks 0-16 (pts were subsequently re-allocated to follow a new treatment regime -or to continue the previous one-). Results for weeks 16-52/56 are available on trials' publications [2] [3] [4].
*PASI (Psoriasis Area Severity Index) is a composite index with scores ranging from 0 to 72, based on three dermatologic disease characteristics and the body area of dermatologic disease involvement.
IGA (Investigator Global Assessment) score of 0 or 1 = "clear" or "almost clear", with at least two categories of improvement from baseline, assessed on the five point IGA scale.

Summary of clinical SAFETY:

Safety results are summarized in Table 1. The most common TEAEs across the BIM treatment groups in BE READY and BE VIVID clinical trials were nasopharyngitis (7% and 9%, respectively), oral candidiasis (6% and 9%) and URTI (4% and 3%). In the BE SURE clinical trial, the most common AEs in the BIM Q4W and BIM Q4W→Q8W were URTI (30% and 28%, respectively), oral candidiasis (10% and 12%), hypertension (4% and 6%) and diarrhea (5% and 3%)**.

Table 1: TEAEs in the safety population.

	BE READY (Weeks 0-16)		BE VIVID (Weeks 0-16)			BE SURE (Weeks 0-24)		
	Placebo (n=86)	BIM Q4W (n=349)	Placebo (n=83)	BIM Q4W (n=321)	UST (n=163)	BIM Q4W (n=158)	BIM Q4W→Q8W (n=161)	ADA (n=159)
Any TEAE	35 (41%)	213 (61%)	39 (47%)	181 (56%)	83 (51%)	112 (71%)	116 (72%)	111 (70%)
Serious TEAEs	2 (2%)	6 (2%)	2 (2%)	5 (2%)	5 (3%)	4 (3%)	1 (<1%)	5 (3%)
Drop-out due to TEAEs	0	3 (1%)	6 (7%)	6 (2%)	3 (2%)	3 (2%)	6 (4%)	5 (3%)
Deaths	0	0	1 (1%)	1 (<1%)	1 (1%)	0	0	1 (<1%)

**Safety results refer to weeks 0-16 for BE READY and BE VIVID clinical trials and to weeks 0-24 for BE SURE clinical trial.

Ongoing studies:

- ***For the same indication:*** Yes (NCT03598790). NCT03536884 already published.
- ***For other indications:*** Yes

Discontinued studies (for the same indication): No

References:

[1]. https://www.ema.europa.eu/en/medicines/human/summaries-opinion/bimzelx
[2]. Gordon K. B., et al. Bimekizumab efficacy and safety in moderate to severe plaque psoriasis (BE READY): a multicentre, double-blind, placebo-controlled, randomised withdrawal phase 3 trial. *Lancet* 2021; **397**: 475–86.
[3]. Reich K., et al. Bimekizumab versus ustekinumab for the treatment of moderate to severe plaque psoriasis (BE VIVID): efficacy and safety from a 52-week, multicentre, double-blind, active comparator and placebo controlled phase 3 trial. *Lancet* 2021; **397**: 487-98
[4]. Warren R. B., et al. Bimekizumab versus Adalimumab in Plaque Psoriasis.*N Engl J Med* 2021; **385**:130-141.
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[7]. Gisondi P., Altomare G., et al.: Italian guidelines on the systemic treatments of moderate-to-severe plaque psoriasis. JEADV, 2017; 31, 774–790.
[8]. https://www.ema.europa.eu/en
[9].https://clinicaltrials.gov/ct2/results?cond=&term=&type=&rslt=&recrs=b&recrs=a&recrs=f&recrs=d&recrs=e&age_v=&gndr=&intr=Bimekizumab&titles=&outc=&spons=&lead=&id=&cntry=&state=&city=&dist=&locn=&phase=2&rsub=&strd_s=&strd_e=&prcd_s=&prcd_e=&sfpd_s=&sfpd_e=&rfpd_s=&rfpd_e=&lupd_s=&lupd_e=&sort=
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NHS impact

Cost of therapy: Not available.

Epidemiology:plaque psoriasis is the most frequent clinical variant of psoriasis. In the general Italianpopulationit is estimated at 2.8%, with a higher frequency in males. It is estimated that about 1,500,000 Italians are affected by the disease [5] [6].

POSSIBLE PLACE IN THERAPY

Systemic treatments for MSPP approved in Italy include either phototherapy, narrowband UV B light, or photochemotherapy (i.e. psoralen plus UVA light), and systemic agents such as cyclosporine, methotrexate, acitretin, apremilast, TNF-⍰ blockers (etanercept, infliximab, adalimumab), ustekinumab and secukinumab [7]. Recently, certolizumab, brodalumab, dimethyl fumarate, ixekizumab, tildrakizumab and guselkumab received authorization for the treatment of MSPP in adults who are candidates for systemic therapy [8].

OTHER INDICATIONS IN DEVELOPMENT: Ankylosing Spondylitis (NCT03355573); Hidradenitis Suppurativa (NCT04901195); Axial Spondyloarthritis (NCT04436640); Psoriatic Arthritis (NCT04009499) [9].

SAME INDICATION IN EARLIER LINE(S) OF TREATMENT: -

OTHER DRUGS IN DEVELOPMENT for the SAME INDICATION: SHR-1314; SB17 (Proposed Ustekinumab Biosimilar); CF101; Mirikizumab; BMS-986165; Risankizumab [10].

*Service reorganization: No
*Possible off label use: Yes