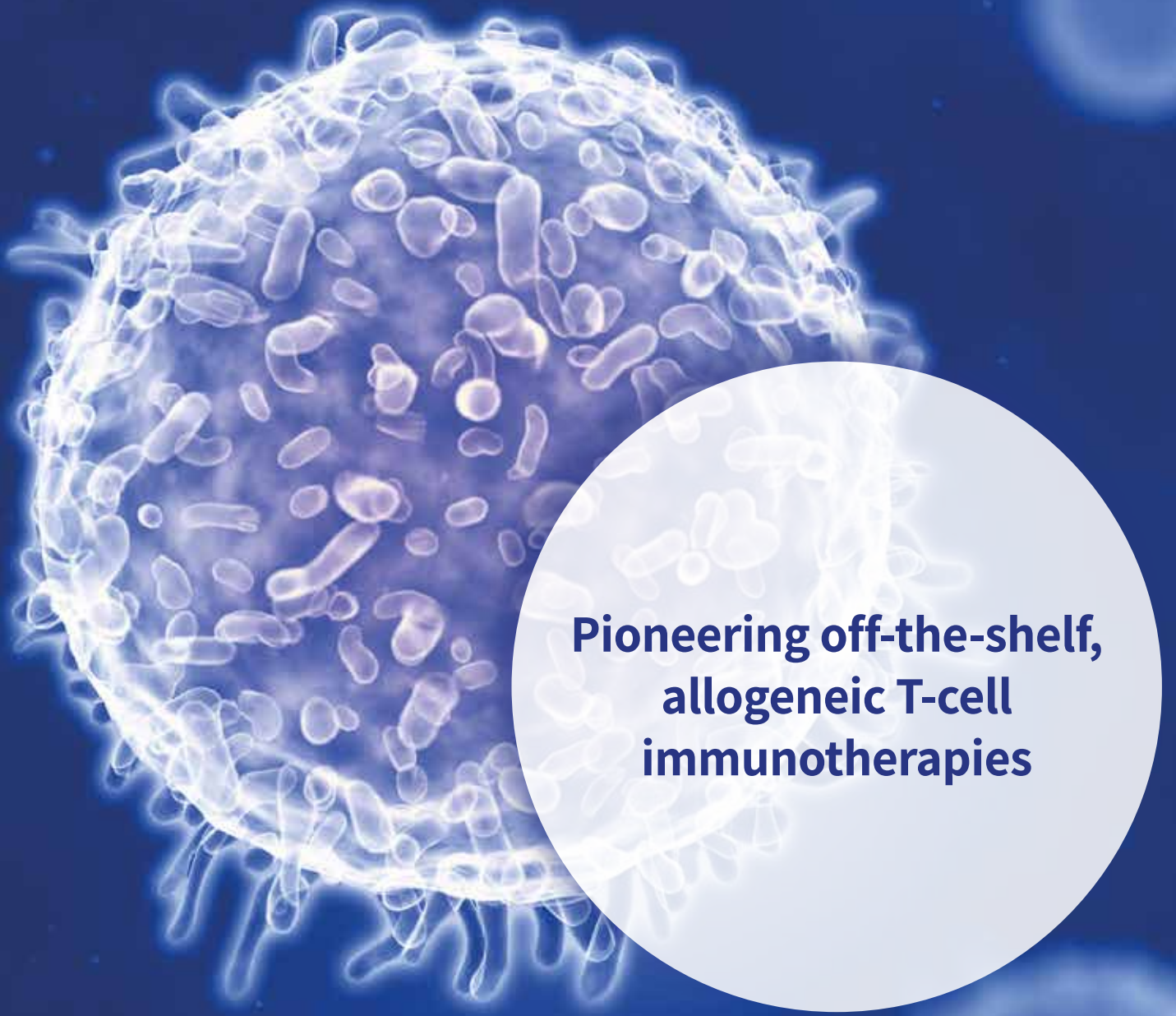




ATARA BIO®



**Pioneering off-the-shelf,  
allogeneic T-cell  
immunotherapies**

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# Pioneering off-the-shelf, allogeneic T-cell immunotherapies

## Robust T-cell immunotherapy pipeline

	Investigated Indication	Target	Preclinical	Phase 1	Phase 2	Phase 3	Registration
Tabelecleucel	RR EBV <sup>+</sup> PTLD following HCT	EBV	ALLELE Study				
	RR EBV <sup>+</sup> PTLD following SOT	EBV	ALLELE Study				
	Nasopharyngeal carcinoma <sup>1</sup>	EBV					
	EBV <sup>+</sup> cancers <sup>2</sup>	EBV					
ATA188	Progressive MS	EBV <sup>3</sup>					
ATA2271	Autologous CAR T Solid tumors <sup>4,5</sup>	Mesothelin					
ATA3271	Off-the-shelf, allogeneic CAR T Solid tumors <sup>4</sup>	Mesothelin					
ATA3219	Off-the-shelf, allogeneic CAR T B-cell malignancies	CD19					
Other CAR T	AML, B-cell malignancies, solid tumors, and infectious diseases	Various					

These investigational agents are not approved by any regulatory agencies as a treatment for any indication. Efficacy and safety have not been established.

EBV<sup>+</sup> PTLD=EBV-associated post-transplant lymphoproliferative disease; HCT=hematopoietic cell transplantation; RR=rituximab relapsed/refractory; SOT=solid organ transplantation.

Other programs: ATA2321 (AML), ATA2431 (B-cell malignancies), ATA230 (CMV), ATA368 (HPV), ATA520 (WT1), and ATA521 (BK/JCV).

1. Phase 1b/2 study in combination with anti-PD-1 therapy, KEYTRUDA® (pembrolizumab), in patients with platinum-resistant or recurrent EBV-associated NPC.

2. Phase 2 multicohort study planned with possible indications including EBV<sup>+</sup> PTLD with CNS involvement, EBV<sup>+</sup> PID/AID LPD, EBV<sup>+</sup> LMS, and other potential EBV-associated diseases.

3. Targeted antigen recognition technology.

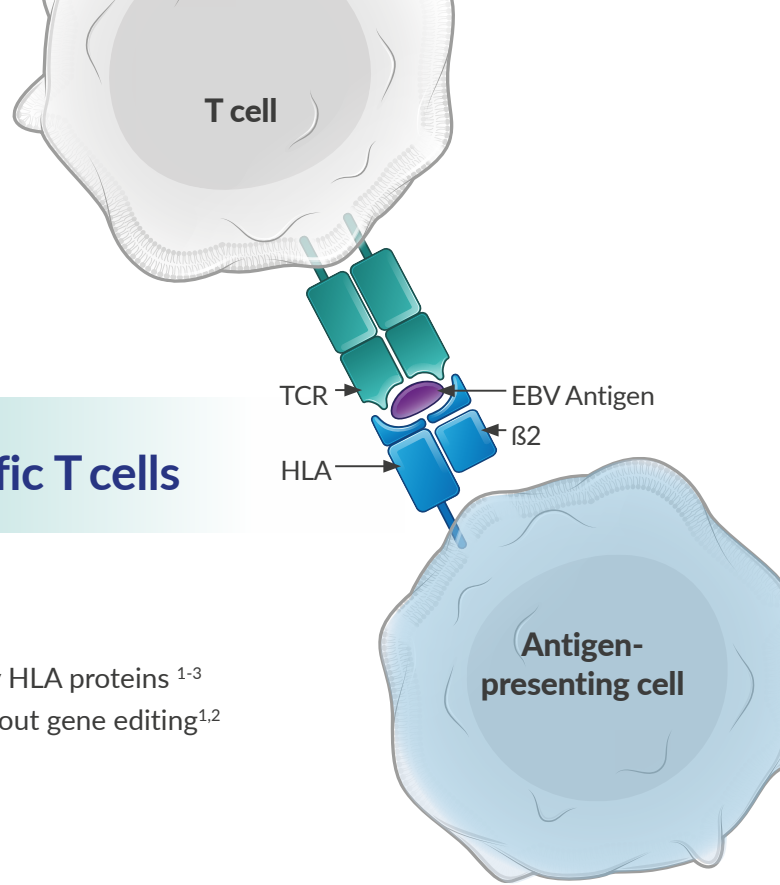
4. Mesothelin is expressed at high levels on the surface of cells in aggressive solid tumors including mesothelioma, triple-negative breast cancer, esophageal cancer, pancreatic cancer, and non-small cell lung cancer.

5. MSK investigator-sponsored Phase 1 study (NCT02414269) of a mesothelin-targeted CAR T immunotherapy is ongoing; Atara's CAR T collaboration with MSK will focus on development of a next-generation, mesothelin-targeted CAR T using novel 1XX CAR signaling and PD-1 dominant negative receptor (DNR) checkpoint inhibition technologies.

## Off-the-shelf, allogeneic EBV-specific T cells

Leverages virus-specific T-cell properties:<sup>1</sup>

- Specific against cells displaying EBV antigens presented by HLA proteins<sup>1-3</sup>
- Function through endogenous T-cell receptors (TCRs) without gene editing<sup>1,2</sup>
- No lymphodepletion required for administration<sup>1-3</sup>



## State-of-the-art T-cell manufacturing

### Developing novel, off-the-shelf, allogeneic T-cell immunotherapies

- Allows for expansion and appropriate characterization of allogeneic EBV T cells for EBV-associated diseases
- Enables scalable production of GMP-grade T-cell immunotherapies to serve large numbers of patients

**ATOM (Atara T-cell Operations & Manufacturing) is a center of excellence where manufacturing, process science, and R&D are colocated**

- Atara's T-cell manufacturing facility is designed to global regulatory standards
- Manufacturing, process science, and R&D are integrated to enable rapid product development
- The facility provides the flexibility to produce multiple T-cell and CAR T immunotherapies



EBV=Epstein-Barr virus; GMP=good manufacturing practice.

References: 1. O'Reilly RJ, et al. *Bone Marrow Transplant*. 2016;51(9):1163-1172. 2. Doubrovina E, et al. *Blood*. 2012;119(11):2644-2656. 3. Koehne G, et al. *Blood*. 2000;96(1):109-117.

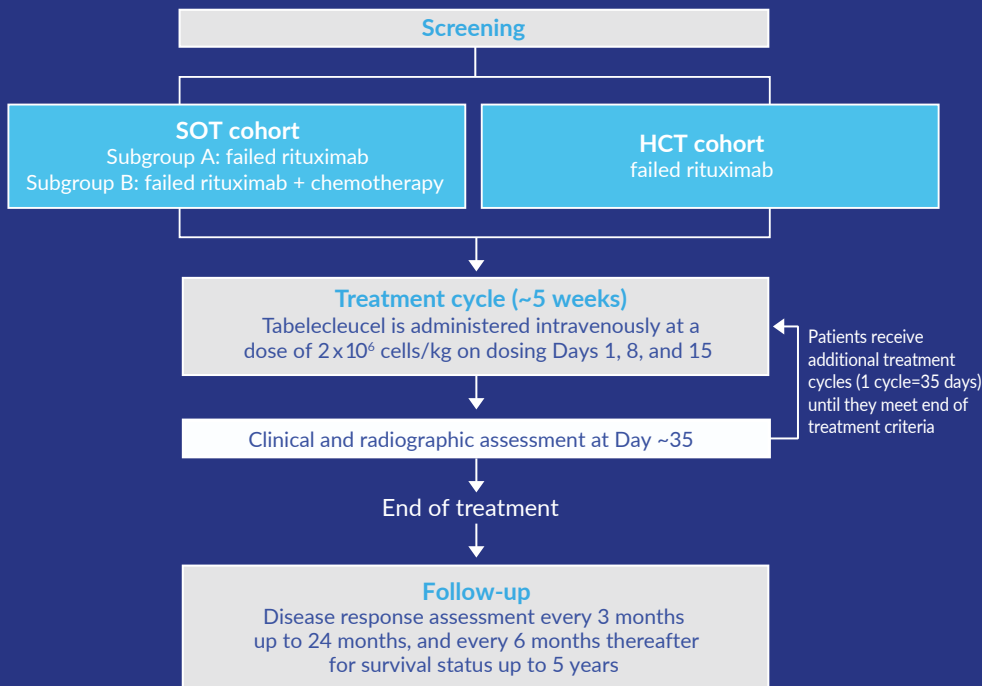


## ALLELE Study: investigational tabellecleucel for EBV<sup>+</sup> PTLD

Patients will be enrolled into 1 of 2 cohorts (HCT or SOT) based on prior type of transplant and PTLD therapy. Screening will also include the confirmation of availability of partially HLA-matched and restricted tabellecleucel.

Study procedures will be the same for each cohort. Tabellecleucel will be administered in cycles lasting 35 days. At the end of each cycle, each patient's response will undergo clinical and radiographic assessment by the investigator using the Lugano Classification response criteria.

### Tabellecleucel is selected for individual patients based on a T-cell library of EBV-specific HLA restrictions



#### Primary endpoint

- Objective response rate (ORR)\*

#### Secondary endpoints

- Duration of response (DOR) in SOT and HCT cohorts separately
- ORR and DOR in SOT and HCT cohorts combined
- Rate of complete response and partial response
- Time to response and time to best response
- Overall survival
- Rates of allograft loss/rejection episodes (for SOT cohort only)

Tabellecleucel is an investigational, allogeneic EBV-specific T-cell immunotherapy selected for individual patients based on HLA matching from an existing tabellecleucel library. Tabellecleucel is an investigational agent and is not approved by any regulatory agencies. Efficacy and safety have not been established.

Two studies (MATCH and ALLELE) were merged into one protocol. The ALLELE study now includes both SOT and HCT cohorts.

HLA=human leukocyte antigen.

\*Evaluated by independent review (independent oncologic response adjudication, IORA).

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MATCH Study



ALLELE Study