

## **Therapies for Overseas Patients**

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# **Available T-Cell Therapies**

|   | CAR-T cell therapies | Indications   |
|---|----------------------|---|
| 1 | CD-19/22/BAFF-R      | Paed & Adult: r/r B cell-Acute Lymphoblastic Leukemia (ALL)                                       |
| 3 | CD-19/79b            | r/r Non-Hodgkin Lymphomas (NHL): DLBCL  |
| 4 | BCMA                 | Multiple Myelomas   |
| 5 | CD-30                | Hodgkin Lymphoma Hodgkin淋巴瘤; Anaplastic Large cell Lymphoma                                       |
| 6 | IL13Rα2 CAR-T        | r/r Glioblastoma multiforme (Brain/GBM)   |
| 7 | Claudin 18.2         | Gastric Cancer, Pancreatic Cancer   |
| 8 | Mesothelin           | Mesothelioma, Pancreatic, Ovarian, Colorectal, Peritoneal, Fallopian tube, Breast, Lung<br>Cancer |
| 9 | GPC3                 | Liver Cancer, Pancreatic Cancer, Colorectal Cancer  |

|   | T Cell Therapies | Indications   |
|---|------------------|---|
| 1 | scFv ICI         | Variety of advanced cancers, such as NSCLC, uterine CA, melanoma, breast CA, etc  |
| 2 | HPV TCR-T        | HPV associated cancers (cervical, Vulvar, Vaginal, Penile, Anal, Oropharyngeal & Larynx)<br>Human papilloma virus (HPV)   |
| 3 | TAA-T            | Variety of advanced cancers, such as Melanoma, Neuroblastoma Wilms Tumor, Sarcomas (Rhabdomyo, soft tissue, Ewing, Osteo) |
| 4 | TIL              | Variety of advanced cancers – personalized  |



### **SAVING LIVES**



Every year, the number of people diagnosed with cancer is increasing. More and more cases of patients dying from cancer reported, a lot of them cannot make it due to unaffordable cost of cancer treatment. Cancer treatments are just too expensive, making it impossible for a lot of unfortunate patients to afford it. This is the main reason **Vamos Biotech** engaged in life-cell therapies.

The original intention to save the unfortunate and needy patients had always been our ultimate goal. It is our dream to drive, to strive, in helping more patients in SE Asia and ultimately the world, to receive affordable treatment and thus, to contribute back to society.



### **BEST IN CLASS**



#### **Pioneer**

Most Innovative and latest technology



#### First to Market

Most advanced and commercially available



#### **Proven**

Clinical Trial Completed, Approved



#### **Most Affordable**

Easy to access, most cost effective in the industry





### **ONE-STOP SERVICE CENTER**

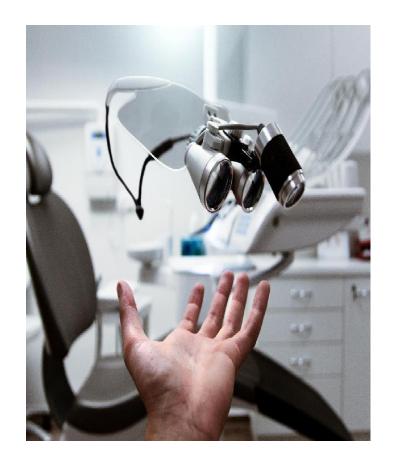


- Pre-Treatment; patients screening with data protection
- Treatment; admission & T-cell based immunotherapy
- Post Treatment; PET-CT scanning & follow up



### **MAIN BENEFITS**

- Education & training of foreign doctors through observation of real cases.
- Local experts with real hands-on experiences in handling large number of patients.
- Regional & International Networking





### **COMPASIONATE USE**



Expanded access is a potential pathway for a patient with an immediately life-threatening conditions, or serious disease or condition to gain access to an investigational medical product (drug, biologic, or medical device) for treatment outside the clinical trials when no comparable or satisfactory alternative therapy options are available.

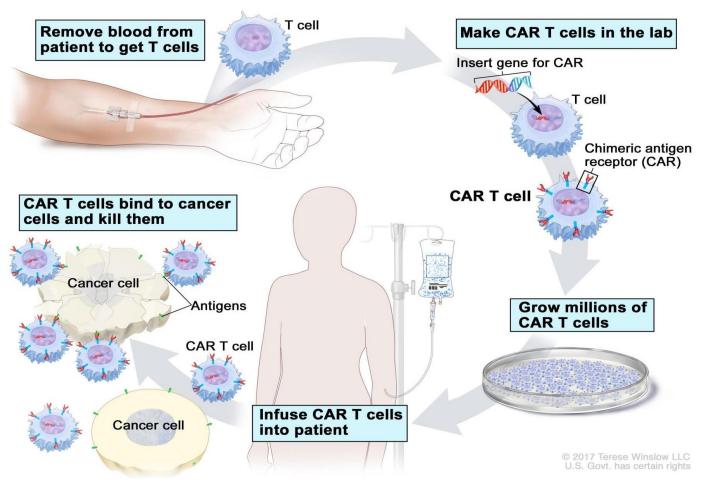
Compassionate use is a treatment option that allows the use of an unauthorized medicine.

Under strict conditions, products in development can be made available to groups of patients who have a disease with no satisfactory authorized therapies and who cannot enter clinical trials.



## **PROCESS FLOW**

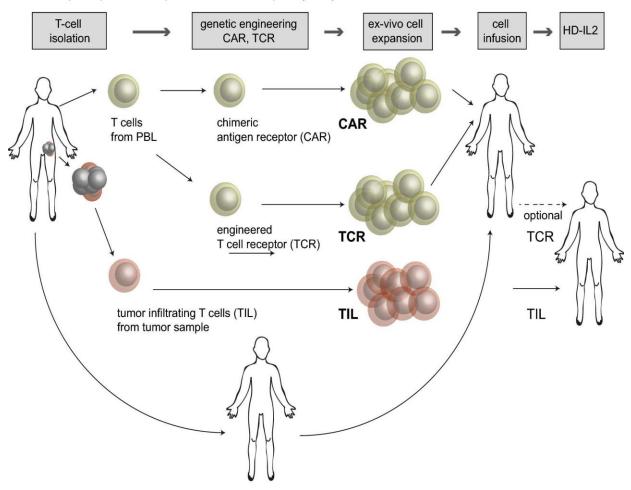
#### **CAR T-cell Therapy**





## **BASIC PRINCIPLES**

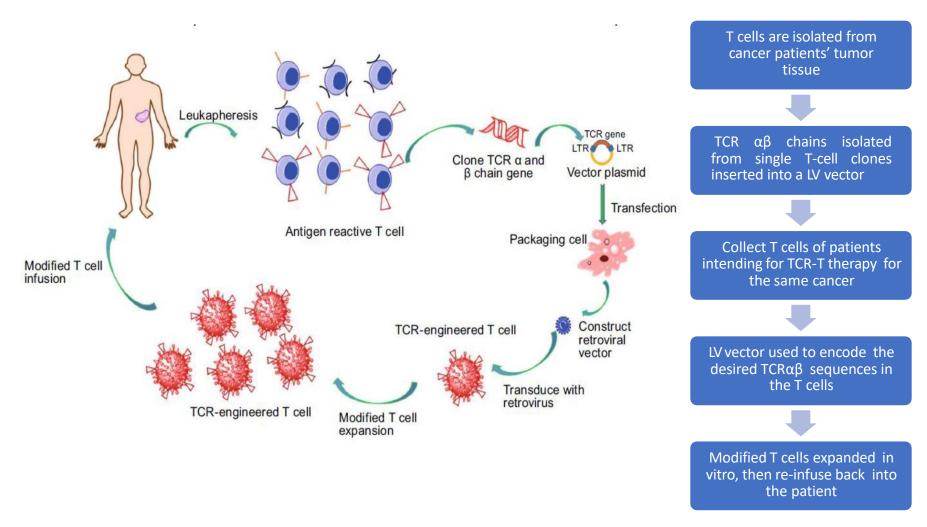
basic principles of adoptive cellular therapies (ACT)



lymphodepletion by chemotherapy



# **Recognizing Cancer**





### TREATMENTS IN MALAYSIA

- Referral of Overseas Patients
   Patients are referred to Vamos by
   Agents or Partner
   Hospitals/Oncologists from overseas.
- Pre-Treatment
   Medical Reports are provided to our medical teams in Malaysia.
- Treatment

The treatment is performed in one of the private hospitals in Malaysia by renowned experts.





### **OVERSEAS TREATMENTS**



#### • Pre-Treatment

Patients are selected for treatment in our partner hospitals, and apheresis is performed.

#### • Preparation of CAR-T

The PBMC are collected from the partner hospital by Vamos, shipped to Malaysia for processing. Once the CAR-T are prepared and cryopreserved, the infusion bag for therapy is sent and delivered to the overseas hospital for treatment.

#### Treatment

The treatment and the posttreatments are performed in one of our partner hospitals.

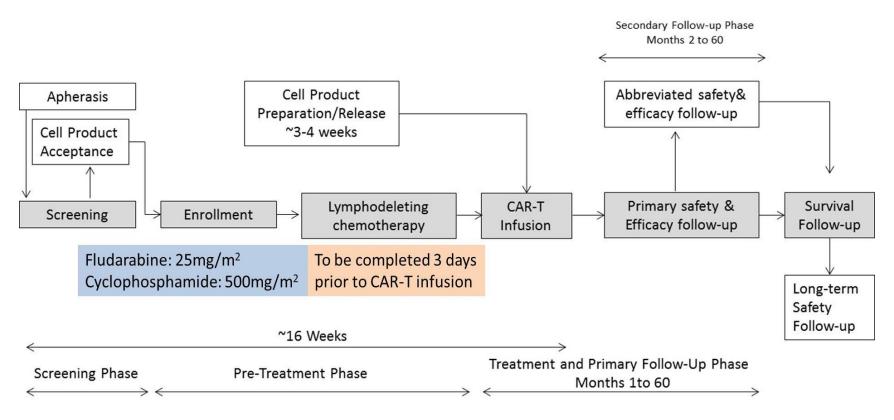


## **WORKFLOW**

| Suitable patients for cancer immunotherapy after baseline screening by in-house physician/Hemo/Onco (CPI, CAR-T, Allo-T, TCR-T, TAA-T, TIL) |  |  |  |  |
|---|--|--|--|--|
| Obtain patient's consent & arrangement for Apheresis  |  |  |  |  |
| Collection of PBMC by Vamos, isolation, and cryopreservation at a local laboratory.   |  |  |  |  |
| Shipping of the PBMC to Vamos laboratory in Malaysia via World Courier.   |  |  |  |  |
| Pre-treatment   |  |  |  |  |
| Treatment (infusion of the immunotherapy cells)   |  |  |  |  |
| End of treatment imaging<br>(CT/MRI/PET-CT) or Biopsy (month 3 & 6 1 <sup>st</sup> dose)<br>for efficacy assessment                         |  |  |  |  |
| Post Infusion patient monitoring & manage SE  |  |  |  |  |



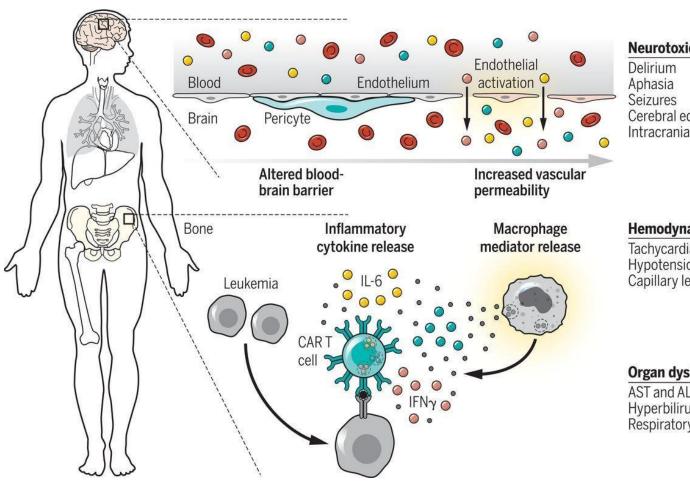
### **CLINICAL TREATMENT FLOW**



Before the infusion of the CAR-T cells into the patients' body, all patients receive a low dose of chemotherapy to lower the tumor burden and eliminate one part of the lymphocytes, this treatment will benefit the side effects control.



### MANAGING THE SIDE EFFECTS



#### **Neurotoxicity**

Cerebral edema Intracranial hemorrhage

#### Hemodynamic instability

Tachycardia Hypotension Capillary leak syndrome

#### **Organ dysfunction**

AST and ALT elevation Hyperbilirubinemia Respiratory failure



### MANAGING THE SIDE EFFECTS

#### Characteristics of CAR- and TCR-engineered Tcells.

| CAR T cells   | TCR T cells  |  |
|---|--|--|
| Signal amplification from synthetic biology: 200 targets can trigger CAR T cells (57) | Sensitive signal amplification derived by evolution of the TCR |  |
| Avidity-controllable  | Low-avidity, unless engineered (58)                            |  |
| CAR targets surface structures: proteins, glycans                                     | TCR targets intracellular proteome                             |  |
| MHC-independent recognition of tumor targets  | Requires MHC class I expression and HLA matching on tumor.     |  |
| At least decade-long persistence (59)   | Lifelong persistence   |  |
| Serial killers of tumor cells (60)  | Serial killers of tumor cells (60)                             |  |
| Cytokine release syndrome more severe than with TCR-based therapy                     | Off-tumor toxicity difficult to predict (7)                    |  |

#### Strategies to overcome current clinical challenges associated with CAR T cell therapies.

| Issue  | Strategy   | Expected outcome  |
|--|--|---|
| Cytokine release syndrome                                    | Tocilizumab, siltuximab, JAK kinase inhibitors, corticosteroids  | Blocking IL-6 effects rapidly reverses fevers, hypotension, and hypoxia       |
| Development of anti-CAR idiotypic antibodies to murine scFvs | Use humanized scFv   | Longer persistence of CAR T cells   |
| Lack of persistence of CAR T cells                           | Understand mechanisms of signaling domains that impart increased longevity (63); use sorted memory or stem cells | Long-term persistence of CAR T cells<br>when desired by clinical<br>situation |
| Relapse owing to loss of CD19 epitope                        | Target CD22 and CD19   | Combinatorial surface targeting prevents escape                               |



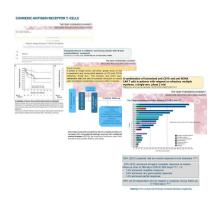
# **CHECK LIST (DOCUMENTS)**



- Treatment History
   All documents describing the treatment history must be in order.
- **Biopsy or Surgical Specimen HPE**Try to compile all-in-one PDF file.
- Imaging (CT/PET-CT)
  Take only the latest imaging.
- Biomarker tests
   Include IPT for leukemia (if applicable)
- **Genomic Tests**If available.



### **SUPPORT TOOLS**



### **Detailing Add**

To share with the specialist who requires the trial summary



LBM (pts)

Patient's stories.



### Physician Flip Chart

In calendar form that allow staffs to share with patients



### Clinical Papers

Mainly to share with specialists or patients

#### Pediatric & Adult ALL:

- Maude et al, 2014
- Maude et al, 2018
- Tan et al, IACH 2018, poster
- Cao et al, 2019

#### Multiple Myeloma

- Yan et al, 2019
- Brudno et al, 2018

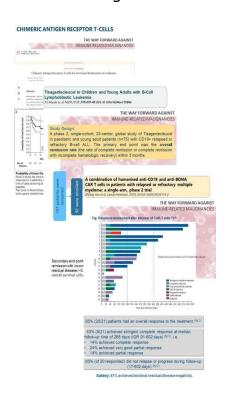
#### Glioblastoma

Brown et al, 201

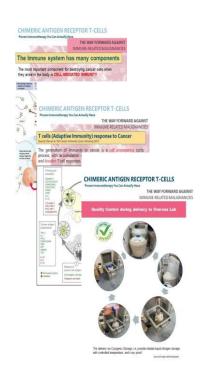


### **MARKETING TOOLS**

#### Detailing Add



#### Physician's Flip Chart



#### **LBM**



#### Clinical Papers

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#### Glioblastoma

• Brown et al, 201



# Why Vamos?





#### **Our Focus**

We invent and produce new technology and new substances for treatment of cancers, viral infections, antibiotic resistant bacterial infections, and other incurable diseases.

#### **Our Results**

Our products achieve results in treatments of many incurable diseases for which treatments are not available or no results can be reached.

#### **Our Prices**

The costs of our cancer immunotherapies are the lowest in the industry and significantly lower compared to any other competitor, while at the same time, our results are second to none.



### **THANK YOU**



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