

T-cell Surface Glycoprotein CD4 - Pipeline Insight, 2022

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Abstracts

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DelveInsight's, "T-cell Surface Glycoprotein CD4- Pipeline Insight, 2022" report provides comprehensive insights about 15+ companies and 15+ pipeline drugs in T-cell Surface Glycoprotein CD4 pipeline landscape. It covers the pipeline drug profiles, including clinical and nonclinical stage products. It also covers the therapeutics assessment by product type, stage, route of administration, and molecule type. It further highlights the inactive pipeline products in this space.

Geography Covered

Global coverage

T-cell Surface Glycoprotein CD4 Understanding

T-cell Surface Glycoprotein CD4: Overview

In molecular biology, CD4 (cluster of differentiation 4) is a glycoprotein found on the surface of immune cells such as T helper cells, monocytes, macrophages, and dendritic cells. It was discovered in the late 1970s and was originally known as leu-3 and T4 (after the OKT4 monoclonal antibody that reacted with it) before being named CD4 in 1984. In humans, the CD4 protein is encoded by the CD4 gene. CD4+ T helper cells are white blood cells that are an essential part of the human immune system. They are often referred to as CD4 cells, T-helper cells or T4 cells. They are called helper cells because one of their main roles is to send signals to other types of immune cells,



including CD8 killer cells, which then destroy the infectious particle. If CD4 cells become depleted, for example in untreated HIV infection, or following immune suppression prior to a transplant, the body is left vulnerable to a wide range of infections that it would otherwise have been able to fight.

Structure of T-cell Surface Glycoprotein CD4

Like many cell surface receptors/markers, CD4 is a member of the immunoglobulin superfamily. It has four immunoglobulin domains (D1 to D4) that are exposed on the extracellular surface of the cell:

D1 and D3 resemble immunoglobulin variable (IgV) domains.

D2 and D4 resemble immunoglobulin constant (IgC) domains.

The immunoglobulin variable (IgV) domain of D1 adopts an immunoglobulin-like ?-sandwich fold with seven ?-strands in 2 ?-sheets, in a Greek key topology.

Function

CD4 is a co-receptor of the T cell receptor (TCR) and assists the latter in communicating with antigen-presenting cells. The TCR complex and CD4 bind to distinct regions of the antigen-presenting MHC class II molecule. The extracellular D1 domain of CD4 binds to the ?2 region of MHC class II. The resulting close proximity between the TCR complex and CD4 allows the tyrosine kinase Lck bound to the cytoplasmic tail of CD4 to phosphorylate tyrosine residues of immunoreceptor tyrosine activation motifs (ITAMs) on the cytoplasmic domains of CD3 to amplify the signal generated by the TCR.

T-cell Surface Glycoprotein CD4 Emerging Drugs Chapters

This segment of the T-cell Surface Glycoprotein CD4 report encloses its detailed analysis of various drugs in different stages of clinical development, including phase II, I, preclinical and Discovery. It also helps to understand clinical trial details, expressive pharmacological action, agreements and collaborations, and the latest news and press releases.

T-cell Surface Glycoprotein CD4 Emerging Drugs



SAR441236: Sanofi

In people with HIV, single infusions of bNAbs have demonstrated antiviral activity and can reduce plasma virus loads. However, virus variants that are resistant to the single bNAb emerge quickly and therefore limit the activity and therapeutic potential of bNAb monotherapy. SAR441236 is an engineered tri-specific bNAb produced by Sanofi that combines the CD4bs specificity of VRC01-LS, the V1/V2 glycan-directed binding of PGDM1400, and the gp41 MPER binding of 10E8v4-variant into one antibody molecule. This tri-specific bNAb neutralizes 204 of 208 (98%) viruses from a standard neutralization panel and provided 100% protection to non-human primates against intrarectal challenge by a mixture of SHIVs, each resistant to one of the bNAb components. The first study of a broadly neutralizing antibody called SAR441236 in humans, will determine if an infusion is safe and tolerable and will measure the amount of SAR441236 in the blood over time. It will also evaluate whether SAR441236 can reduce the amount of HIV in a person's blood.

Myelin oligodendrocyte glycoprotein transduced T cell therapy: ImCyse

Imcyse technology represents the next generation of therapeutic biologics. Modified peptides (Imotopes) specifically block the immune responses causing the immunemediated diseases. Imcyse' Imotopes TM combine target antigenic natural HLA-Class II peptidic epitopes with a specific thioredox motif (a few amino-acids in length). Injection of Imotopes elicits antigen-specific cytolytic CD4 T-cells that induce lysis of antigen-presenting cells (APC) with which a synapse is formed, as well as the autoantigen-specific bystander T-cells, activated on the surface of the same APC. Imcyse technology platform has therefore shown its capacity to specifically eliminate antigen-presenting cells and autoreactive target specific lymphocytes without affecting the other functions of the immune system.

Further product details are provided in the report......

T-cell Surface Glycoprotein CD4: Therapeutic Assessment

This segment of the report provides insights about the different T-cell Surface Glycoprotein CD4 drugs segregated based on following parameters that define the scope of the report, such as:



Major Players in T-cell Surface Glycoprotein CD4

There are approx. 15+ key companies which are developing the therapies for T-cell Surface Glycoprotein CD4. The companies which have their T-cell Surface Glycoprotein CD4 drug candidates in the early stage include Sanofi, ImCyse and others.

Phases

DelveInsight's report covers around 15+ products under different phases of clinical development like

Late-stage products (Phase II and Phase II/III)

Mid-stage products (Phase II and Phase II/III)

Early-stage products (Phase I/II and Phase I) along with the details of

Pre-clinical and Discovery stage candidates

Discontinued & Inactive candidates

Route of Administration

T-cell Surface Glycoprotein CD4 pipeline report provides the therapeutic assessment of the pipeline drugs by the Route of Administration. Products have been categorized under various ROAs such as

Intramuscular

Intravenous

Subcutaneous

Molecule Type

Products have been categorized under various Molecule types such as



Monoclonal antibodies

Cell-Therapies

Tri-specific Antibodies

Product Type

Drugs have been categorized under various product types like Mono, Combination and Mono/Combination.

T-cell Surface Glycoprotein CD4: Pipeline Development Activities

The report provides insights into different therapeutic candidates in phase II, I, preclinical and discovery stage. It also analyses T-cell Surface Glycoprotein CD4 therapeutic drugs key players involved in developing key drugs.

Pipeline Development Activities

The report covers the detailed information of collaborations, acquisition and merger, licensing along with a thorough therapeutic assessment of emerging T-cell Surface Glycoprotein CD4 drugs.

Report Highlights

The companies and academics are working to assess challenges and seek opportunities that could influence T-cell Surface Glycoprotein CD4 R&D. The therapies under development are focused on novel approaches to treat/improve T-cell Surface Glycoprotein CD4.

T-cell Surface Glycoprotein CD4 Report Insights

T-cell Surface Glycoprotein CD4 Pipeline Analysis

Therapeutic Assessment

Unmet Needs



Impact of Drugs

T-cell Surface Glycoprotein CD4 Report Assessment

Pipeline Product Profiles

Therapeutic Assessment

Pipeline Assessment

Inactive drugs assessment

Unmet Needs

Key Questions

Current Treatment Scenario and Emerging Therapies:

How many companies are developing T-cell Surface Glycoprotein CD4 drugs?

How many T-cell Surface Glycoprotein CD4 drugs are developed by each company?

How many emerging drugs are in mid-stage, and late-stage of development for the treatment of T-cell Surface Glycoprotein CD4?

What are the key collaborations (Industry–Industry, Industry–Academia), Mergers and acquisitions, licensing activities related to the T-cell Surface Glycoprotein CD4 therapeutics?

What are the recent trends, drug types and novel technologies developed to overcome the limitation of existing therapies?

What are the clinical studies going on for T-cell Surface Glycoprotein CD4 and their status?



What are the key designations that have been granted to the emerging drugs?

Key Players

Biotest AB

Bristol-Myers Squibb

CEL-SCI Corp

Evotec

Immupharma Plc

TaiMed Biologics

United Biomedical

Key Products

CEL-1000

Forigerimod acetate

Ibalizumab

M-48U1

MAX-16H5

SAR-441236

TMB-360

TMB-365

Tregalizumab





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Comparative Analysis

T-cell Surface Glycoprotein CD4 Key Companies

T-cell Surface Glycoprotein CD4 Key Products

T-cell Surface Glycoprotein CD4- Unmet Needs

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