PATENT

LIPID NANOPARTICLE TO ACTIVATE THE IMMUNE SYSTEM AGAINST CANCER

The Need

Conventional cancer therapies have important limitations. Although immunotherapy is a good advance for the treatment of tumours, there are yet issues to be improved, such as bio-availability and efficacy.

The Solution

A system for the expression of a viral envelope protein on the surface of the tumour cells and the consequent activation of the immune system against it. Particularly, an immunogenic antigen with population widespread immunity due to childhood vaccination practice. Thus, immunity response is fast as antibodies were already generated.

Innovative Aspects

Viral antigen is thoroughly recognized by vaccinated population.

Immunotherapy based on widespread immunity

Fast immune response

Tumour heterogeneity is overcome.

It is not necessary to design customised antigens.

Difference with mammal antigens avoids a cross-response.

No tumour resistance.

Antigen expression only in tumour cells.

Immune response focused on tumour cells.

Tumour cells transformed *in vivo*, no need for external cell cultures.

Stage of Development: Preclinical

Intellectual Property

Spanish patent application (Priority date: August 1, 2025)

Suitable for international extension (PCT application)

Available for:

- **Licensing**
- **Further development**

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