Oncolytic adenovirus encoding for CXCL9

Catalogue number:
Sub-type:
Images:

Contributor

Inventor:
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Images:

Tool details

*FOR RESEARCH USE ONLY

Name: Oncolytic adenovirus encoding for CXCL9

Alternate name: Oncolytic adenovirus encoding for Monokine induced by gamma (MIG)

Class:
Conjugate:
Description: Oncolytic adenoviruses have become commonly used viral vectors for cancer immunotherapy worldwide. Modifications in the viral genome give the potential of such viruses to serve as gene transfer vehicles and target cancer cell sof malignant phenotype. Restricted curative effect with traditional cancer therapies (radiation therapy, conventional chemotherapy, etc.) is often due to the lack of tumour infiltrate immune cells. To target the absence of such effectors and facilitate their recognition of target cells, the molecular function of various signalling molecules can be investigated. Cytokines play a role in oncology since many decades by regulating the tumour-directed immune response. These molecular messengers hold the potential to switch a cold tumour containing only few immune effector cells to a hot tumour with increased tumour infiltration. The match between effector and target cells constitute a necessity for effective therapies. Therefore, cytokine encoding adenoviruses can be designed to facilitate immune infiltration based on their role, mainly, in T-cell attraction. CXCL9 belongs to the subgroup of cytokines known as chemokines. These small molecular weighted proteins are known to direct cell movement towards a gradient in various tissue types. Bronger and colleagues investigated in the effect of CXC9 to facilitate lymphocyte infiltration into the tumour. They showed such association through binding to the cognate chemokine receptor, CXCR3, preferentially present on CD8 T-cells, Th1 T-cells, NK (T-cells), dendritic cells and monocytes.
Purpose: Oncolytic viruses are able to stimulate the anti-tumour immunity when administered concomitantly with immunotherapies. This vector encoding for CXCL9 can be used to study effects or mechanisms of such combinations, with applications in cancer vaccines.
Parental cell:
Organism:
Tissue:

Model:
Gender:
Isotype:
Reactivity:
Selectivity:
Host:
Immunogen:
Immunogen UNIPROT ID:
Sequence: Hamdan et al. 2021. Mol Ther Methods Clin Dev. 4;20:625-634. PMID: 33718513
Growth properties:
Production details:
Formulation:
Recommended controls:
Bacterial resistance:
Selectable markers: kanamycin selection LB medium
Additional notes:

Target details

Target:

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application: A549 cell infection and chemokine expression
Application notes:

Handling

Format:
Concentration:
Passage number:
Growth medium:
Temperature:
Atmosphere:
Volume:
Storage medium:
Storage buffer:

Storage conditions:
Shipping conditions:

Related tools

Related tools: Oncolytic adenovirus encoding for CXCL10, Oncolytic virus encoding for IL-15

References

References: