

DESCRIPTION

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| Cell Line Name | Human VISTA-CHO-K1 stable cell line |
| Catalog Number | C3046 |
| Gene Sequences | NP_071436.1 |
| Host Cell | Adherent CHO-K1 |
| Quantity | Two vials of frozen cells (2x10 ⁶ per vial) |
| Culture Medium | DMEM with 10% FBS, 4µg/ml puromycin |
| Freezing Medium | 90% FBS and 10% DMSO |
| Storage | Liquid nitrogen |

BACKGROUND

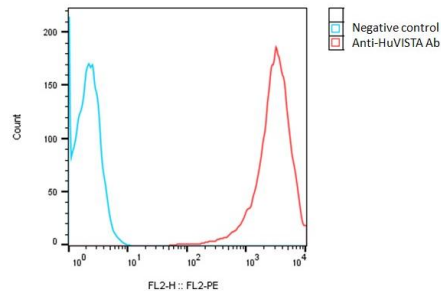
Human VISTA (V-domain Ig suppressor of T cell activation) is a transmembrane protein belonging to the immunoglobulin superfamily. The function of VISTA is primarily to suppress the activation and proliferation of T cells, thereby preventing excessive immune responses that could lead to tissue damage or autoimmune diseases. VISTA achieves this by interacting with its ligands, which are expressed on the surface of various immune cells, and inhibiting downstream signaling pathways that promote T cell activation. In addition, VISTA activity with macrophages helps reduce production of pro-inflammatory cytokines and increase anti-inflammatory mediators to regulate immune response. VISTA expression has been implicated in various cancers. Studies have shown that VISTA is upregulated in certain types of cancers, including lung cancer, ovarian cancer, and breast cancer with its over-expression suggesting that VISTA may play a role in tumor progression and immune evasion. Given its role in regulating immune responses, VISTA has emerged as a potential therapeutic target for cancer immunotherapy. Strategies aimed at blocking VISTA signaling, such as monoclonal antibody-based therapies, have shown promising results in preclinical studies and early-phase clinical trials.

THAWING AND CULTURING

- Remove the cell vial from liquid nitrogen tank and thaw cells quickly in a 37°C water bath
- Transfer the cells to a 15 ml centrifuge tube and slowly add 5 ml of pre-warmed complete growth medium
- Centrifuge the cells at 200x g for 5 min
- Remove the supernatant
- Resuspend cell pellet with 7 ml of complete growth medium and transfer cells to a T25 flask
- Incubate cells in an incubator with 5% CO₂ at 37°C
- Split the cells twice a week or as needed.

DATA

Detection of human VISTA expression on human VISTA-CHO-K1 stable cells using a monoclonal antibody specific for human VISTA (Accurus #A1024), followed by staining with PE-anti human antibody.


REFERENCES

- Wang L, Rubinstein R, Lines JL, et al. VISTA, a novel mouse Ig superfamily ligand that negatively regulates T cell responses. *J Exp Med.* 2011;208(3):577-592.
- Yuan L, Tatineni J, Mahoney KM, Freeman GJ. VISTA: A Mediator of Quiescence and a Promising Target in Cancer Immunotherapy. *Trends Immunol.* 2021 Mar;42(3):209-227. doi: 10.1016/j.it.2020.12.008. Epub 2021 Jan 23. PMID: 33495077; PMCID: PMC8088836.

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