

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived human VSTM2A protein
Ser25-Phe244, with a C-terminal 6-His tag
Accession # Q8TAG5-2

N-terminal Sequence Analysis Ser25

Predicted Molecular Mass 25 kDa

SPECIFICATIONS

SDS-PAGE 38-42 kDa, reducing conditions

Activity Measured by its ability to inhibit anti-CD3 antibody induced IFN-gamma secretion by human peripheral blood mononuclear cells (PBMC). The ED₅₀ for this effect is 1-10 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

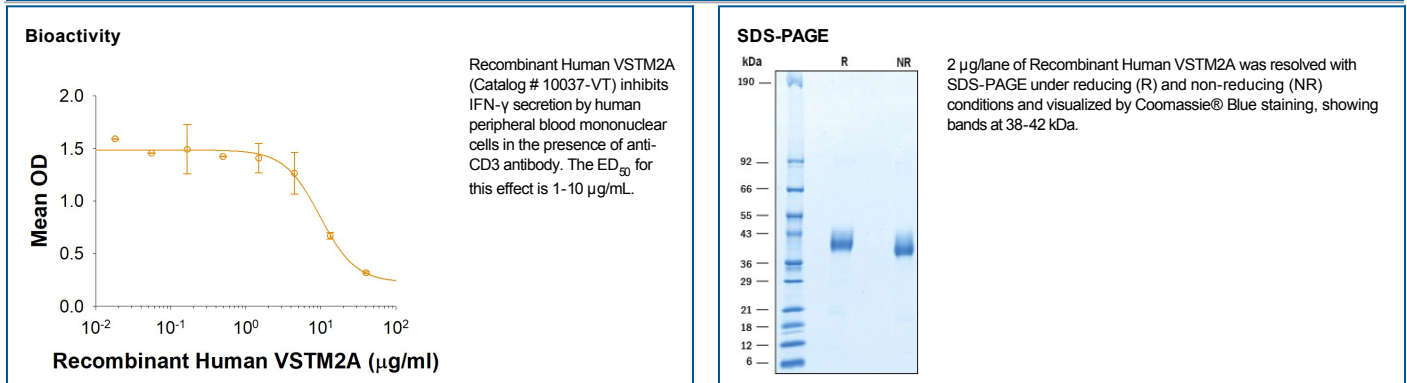
Reconstitution Reconstitute at 200 µg/mL in PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

- 12 months from date of receipt, ≤ -20 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

V-set and transmembrane domain-containing protein 2A (VSTM2A) is a secreted glycoprotein that is expressed by committed preadipocytes. N-linked glycosylation is crucial for its secretion, but not for preadipocyte cell differentiation activity. It is expressed during adipocyte development and its over-expression promotes adipogenesis (1). VSTM2A is highly expressed in the brain and *Vstm2a* was identified as an enigmatic gene that is highly produced in mouse brain (1, 2). A positive association has been observed between *Vstm2a* and *Pparg2*. VSTM2A plays a role in the regulation of the early stage of white and brown preadipocyte cell differentiation. It promotes adipogenic commitment of preadipocytes by increasing gene expression of the transcription factor PPARG in a BMP4-dependent signaling pathway (1, 3). In humans, two isoforms (1 and 2) exist due to alternative splicing. Human VSTM2A is synthesized either as a 236 amino acid (aa) (Isoform 1) or a 244 aa (Isoform 2) precursor that contains a 24 aa signal sequence followed by the VSTM2A domain. Human Isoform 2 VSTM2A shares 78% aa sequence identity with mouse and rat VSTM2A. Our in house data show that VSTM2A inhibits the human T cell activation, including anti-CD3 induced IL-2 and IFN-γ secretion, and T cell proliferation.

References:

1. Secco, B. *et al.* (2017) Cell Rep. **18**:93.
2. Pandey, A.K. *et al.* (2014) PloS One. **9**:e88889.
3. Berry, D.C. *et al.* (2013) Development. **140**:3939.