

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human VSTM4 in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2694A
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	Chinese Hamster Ovary cell line CHO-derived human VSTM4 Leu24-Tyr180 Accession # Q8IW00-1
<b>Conjugate</b>	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	HEK293 Human Cell Line Transfected with Human VSTM4 and eGFP

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

V-set and transmembrane domain-containing protein 4 (VSTM4) is a single-pass type I membrane protein in the immunoglobulin superfamily. Human VSTM4 is synthesized as a 320 amino acid (aa) precursor that contains a 23 aa signal sequence, 157 aa extracellular region, 21 aa TM domain, and 119 aa cytoplasmic tail. In humans, part of the extracellular region is cleaved into a 50 aa secreted peptide (aa 55-104) compared to mouse, which is cleaved into a 49 aa peptide (aa 55-103) (1). Because of its role in enhancing L-type voltage-gated calcium channel (L-VGCC) currents in photoreceptors, this peptide was named peptide Lv (1). Peptide Lv is expressed in the central nervous system and a variety of organs including spleen, intestine, retina, and lung (1, 2). The peptide may have possible roles in regulating the cardiovascular system and L-VGCC dependent neural plasticity (1, 2). Human VSTM4 gene is located on chromosome 10, which may be linked to late-onset Alzheimer's disease (3). Down-regulation of VSTM4 increased tamoxifen sensitivity and suppressed growth in cultured breast cancer cells (4). Within the ECD, human VSTM4 shares 87% and 85% aa sequence identity with mouse and rat VSTM4, respectively. The biological functions of VSTM4 remain unknown. Our in-house data show that VSTM4 inhibits the human T cell activation, including anti-CD3 induced IL-2 and IFN-γ secretion, and T cell proliferation.

### References:

- Shi, L. *et al.* (2012) PLoS. **7**:e43091.
- Shi, L. *et al.* (2015) Biochim. Biophys. Acta. **1853**:1154.
- Grupe, A. *et al.* (2006) Am. J. Hum. Genet. **78**:78.
- Mendes-Pereira, A. *et al.* (2012) Proc. Natl. Acad. Sci. **109**:2730.

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