

# PRODUCT INFORMATION



## PVR/CD155 Extracellular Domain (human, recombinant)

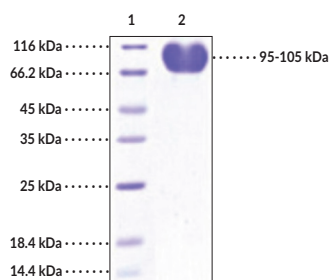
Item No. 31826

### Overview and Properties

**Synonyms:** HVED, Necl-5, Nectin-like Protein 5, TAGE4  
**Source:** Active recombinant C-terminal human IgG1 Fc-tagged PVR expressed in HEK293 cells  
**Amino Acids:** 21-343  
**Uniprot No.:** P15151  
**Molecular Weight:** 61.8 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Purity:** ≥95% as determined by SDS-PAGE  
**Supplied in:** Lyophilized from sterile PBS, pH 7.4  
**Endotoxin Testing:** <1.0 EU/μg, determined by the LAL endotoxin assay  
**Bioactivity:** See figures for details

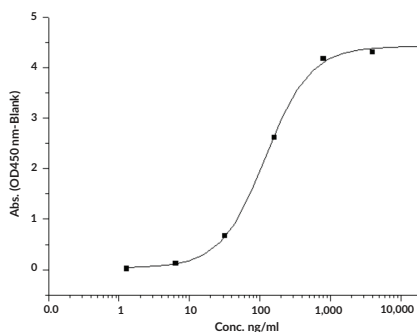
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



Lane 1: MW Markers  
Lane 2: PVR Extracellular Domain

**SDS-PAGE Analysis of PVR Extracellular Domain.** This protein has a calculated molecular weight of 61.8 kDa. It has an apparent molecular weight of approximately 95-105 kDa by SDS-PAGE under reducing conditions due to glycosylation.



**PVR Extracellular Domain Activity in a Binding Assay.** Immobilized human DNAM1 at 2 μg/ml (100 μl/well) can bind PVR/CD155 Extracellular Domain (human, recombinant) with a linear range of 0.032-0.8 μg/ml.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

Poliovirus receptor (PVR), also known as CD155, is a member of the nectin-like family of adhesion molecules encoded by the *PVR* gene in humans that regulates cell migration and proliferation and immune cell activation.<sup>1</sup> It contains an N-terminal extracellular domain with three immunoglobulin-like (Ig-like) loops, C1-like and C2 domains that mediate dimerization, a transmembrane segment that acts as a ligand for receptors expressed by immune cells, and a C-terminal cytoplasmic tail that interacts with intracellular scaffold proteins.<sup>1,2</sup> PVR is highly expressed by enterocytes and gastrointestinal lymphatic tissues.<sup>3</sup> It localizes to the cell surface where it forms *cis*-homodimers that associate by *trans*-interactions with nectin-3 *cis*-homodimers expressed on adjacent cells, resulting in cell-cell adhesion.<sup>1</sup> PVR internalization by endocytosis disrupts PDGFR and integrin  $\alpha\text{V}\beta\text{3}$  signaling, inducing contact inhibition of cell movement and proliferation.<sup>1,2</sup> PVR binds the co-stimulatory receptor CD226/DNAM-1 (Item Nos. 32071 | 32072), which is widely expressed by most immune cells, including T cells, B cells, natural killer (NK) cells, and monocytes, and the inhibitory receptors TIGIT (Item No. 32081) and CD96, which are expressed by NK cells and T cells, inducing activation or inhibition of immune cells in a receptor-specific manner.<sup>1</sup> It is also the receptor for poliovirus attachment and entry into cells. In cancer cells, *PVR* expression is upregulated by FGF stimulation or expression of the oncogene Ras and downregulated by the unfolded protein response.<sup>4</sup> Cayman's PVR/CD155 Extracellular Domain (human, recombinant) protein can be used for binding assay applications. This protein is a disulfide-linked homodimer. The reduced monomer, comprised of PVR (amino acids 21-345) fused to human IgG1 Fc at its C-terminus, consists of 561 amino acids, has a calculated molecular weight of 61.8 kDa, and a predicted N-terminus of Trp21 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 95 to 105 kDa by SDS-PAGE under reducing conditions.

## References

1. Brlić, P.K., Roviš, T.L., Cinamon, G., *et al.* Targeting PVR (CD155) and its receptors in anti-tumor therapy. *Cell. Mol. Immunol.* **16(1)**, 40-52 (2019).
2. Takai, Y., Miyoshi, J., Ikeda, W., *et al.* Nectins and nectin-like molecules: Roles in contact inhibition of cell movement and proliferation. *Nat. Rev. Mol. Cell Biol.* **9(8)**, 603-615 (2008).
3. Mueller, S. and Wimmer, E. Recruitment of nectin-3 to cell-cell junctions through *trans*-heterophilic interaction with CD155, a vitronectin and poliovirus receptor that localizes to  $\alpha\text{v}\beta\text{3}$  integrin-containing membrane microdomains. *J. Biol. Chem.* **278(33)**, 31251-31260 (2004).
4. Gong, J., Fang, L., Liu, R., *et al.* UPR decreases CD226 ligand CD155 expression and sensitivity to NK cell-mediated cytotoxicity in hepatoma cells. *Eur. J. Immunol.* **44(12)**, 3758-3767 (2014).

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