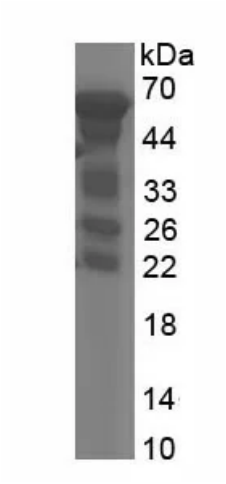
# Active Perforin 1 (PRF1)

*Catalog#:PEH12645*

## 概述（Summary）

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|---|---|
| **别称（Alternative Names）** | FLH2; HPLH2; P1; PFP; Pore Forming Protein; Cytolysin; Lymphocyte pore-forming protein |
| **纯度（Purity）** | Greater than 95% as determined by reducing SDS-PAGE. |
| **内毒素（Endotoxin level）** | Please contact with the lab for this information |
| **蛋白构建（Construction）** | 【Lys32-Phe316】 |
| **Accession #** | P14222 |
| **表达宿主（Host）** | E.coli |
| **种属（Species）** | Homo sapiens (Human) |
| **预测分子量（Predicted MW）** | 61.5 kDa |
| **制剂（Form）** | Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300. |
| **运输方式（Shipping）** | The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below. |
| **稳定性&储存（Stability &Storage）** | 12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles. |
| **复溶（Reconstitution）** | Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex. |
| **背景介绍（References）** | Pore-forming protein that plays a key role in secretory granule-dependent cell death, and in defense against virus-infected or neoplastic cells. Plays an important role in killing other cells that are recognized as non-self by the immune system, e.g. in transplant rejection or some forms of autoimmune disease. Can insert into the membrane of target cells in its calcium-bound form, oligomerize and form large pores. Promotes cytolysis and apoptosis of target cells by facilitating the uptake of cytotoxic granzymes. |

## 电泳图（SDS-PAGE image）




Greater than 95% as determined by reducing SDS-PAGE.

## 活性图（Bioactivity image）

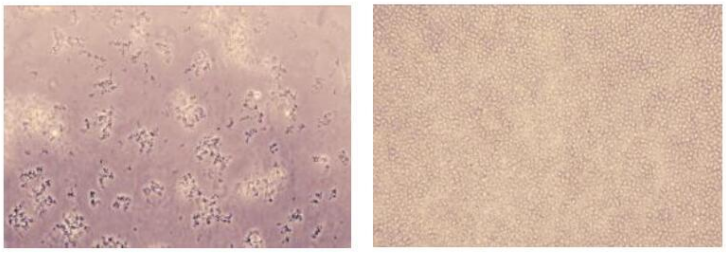
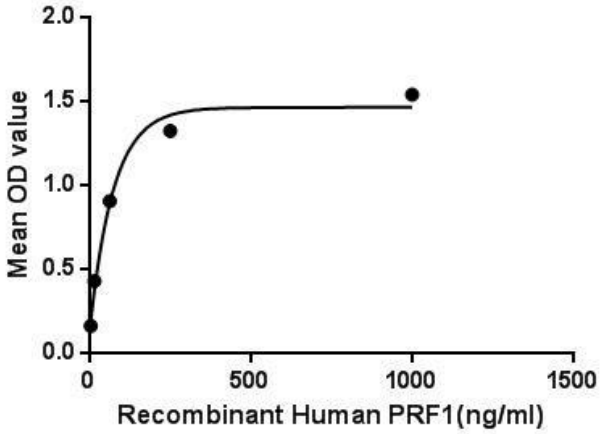


**Figure 2. Hemolysis activity of recombinant human PRF1.**

Figure. The binding activity of PRF1 with CRT. Perforin 1 (PRF1) is a pore forming cytolytic protein found in the granules of cytotoxic T lymphocytes (CTLs) and NK cells. Upon degranulation, perforin binds to the target cell's plasma membrane, and oligomerises in a Ca2 dependent manner to form pores on the target cell. The pore formed allows for the passive diffusion of a family of pro-apoptotic proteases, known as the granzymes, into the target cell. Besides, Calreticulin (CRT) has been identified as an interactor of PRF1, thus a binding ELISA assay was conducted to detect the interaction of recombinant human PRF1 and recombinant human CRT. Briefly, PRF1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µL were then transferred to CRT-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-PRF1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of PRF1 and CRT was shown in Figure 1, and this effect was in a dose dependent manner. Figure. Hemolysis activity of recombinant human PRF1. The activity of recombinant PRF1 was measured by lysis of erythrocytes using a hemolysis assay. A general procedure is as fllows: two-fold dilute the recombinant human PRF1 with 0.9% NaCl, add 50µL a serial dilution of PRF1, 10µL 0.1M CaCl2 to each well, then add 50µL 0.25% rabbit erythrocyte (RaE) to each well and mixed gently. Add 10µL 0.9% NaCl to reaplace CaCl2 in control wells. The plate is incubated for 20 hours at 37℃, 5% CO2. The results are shown in Figure 2. It was obvious that the minimal effective concentration of PRF1 is 12.5µg/mL. (A) 0.25% RaE tread with 12.5µg/mL PRF1 for 20h; (B) Negative control (0.25% RaE tread with 12.5ug/mL PRF1) without CaCl2.




## 注意事项（Note）

For Research Use Only , Not for Diagnostic Use.