

NKG2D/CD314 Protein, Human (HEK293, Fc-Flag)

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| Cat. No.: | HY-P78498 |
| Synonyms: | CD314; D12S2489E; KLR; NKG2-D; NKG2D |
| Species: | Human |
| Source: | HEK293 |
| Accession: | P26718 (F78-V216) |
| Gene ID: | 100528032 |
| Molecular Weight: | 50-70 kDa |

PROPERTIES

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| Biological Activity | <ol style="list-style-type: none"> 1. Immobilized Human ULBP-2, His Tag at 2µg/ml (100µl/Well) on the plate. Dose response curve for Human NKG2D, hFc Tag with the EC₅₀ of 2.8µg/ml determined by ELISA. 2. Immobilized Human MICA, His Tag at 1µg/ml (100µl/Well) on the plate. Dose response curve for Human NKG2D, hFc Tag with the EC₅₀ of 0.88µg/ml determined by ELISA. 3. Serial dilutions of Anti-NKG2D Antibody, hFc Tag were added into Biotinylated Human ULBP-2, His Tag : Human NKG2D, hFc Tag binding reactions. The half maximal inhibitory concentration (IC₅₀) is 45.2ng/ml. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization. |
| Endotoxin Level | <1 EU/µg, determined by LAL method. |
| Reconstitution | It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. |
| Storage & Stability | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| Shipping | Room temperature in continental US; may vary elsewhere. |

DESCRIPTION

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| Background | <p>NKG2D/CD314 protein operates as an activating and costimulatory receptor essential for immunosurveillance, binding to diverse cellular stress-inducible ligands presented on autologous tumor cells and virus-infected cells. It plays a dual role in innate immune responses, stimulating both activating killer (NK) cells and acting as a costimulatory receptor for T-cell receptors (TCR) in CD8(+) T-cell-mediated adaptive immune responses, enhancing T-cell activation. The receptor facilitates perforin-mediated elimination of ligand-expressing tumor cells, and its signaling cascades involve calcium influx, ultimately leading to TNF-alpha expression. Additionally, NKG2D/CD314 participates in NK cell-mediated bone marrow graft rejection and may regulate the differentiation and survival of NK cells. Its ligand-binding capacity extends to various subfamilies of MHC class I-related glycoproteins, including MICA, MICB, RAET1E, RAET1G, RAET1L/ULBP6, ULBP1, ULBP2, ULBP3</p> |
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(ULBP2>ULBP1>ULBP3), and ULBP4. The protein forms homodimers through disulfide linkage and heterohexamers with HCST/DAP10 subunits, a crucial interaction for NK cell surface expression and cytotoxicity induction. Furthermore, it can establish disulfide-bonded heterodimers with CD94 and interacts with CEACAM1, recruiting PTPN6 for VAV1 dephosphorylation, while not interacting with TYROBP.

Caution: Product has not been fully validated for medical applications. For research use only.

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