RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Recombinant Human Dipeptidyl-Peptidase 4

Catalog No.	**Source**
228-10340	*High-5 cells.*

Synonyms

CD26, ADABP, ADCP2, DPPIV, TP103, DPP4, Dipeptidyl peptidase 4, Dipeptidyl peptidase IV, DPP IV, T-cell activation antigen CD26, Adenosine deaminase complexing protein 2, CD26 antigen.

Introduction:

DPP4 also called adenosine deaminase complexing protein-2, and T-cell activation antigen CD26 is a serine exopeptidase and complex enzyme that is expressed on the surface of most cell types. DPPIV is an intrinsic membrane glycoprotein and a serine exopeptidase that cleaves X-proline dipeptides from the N-terminus of polypeptides. DPP4 plays a role in t-cell activation. DPP4 is associated with intracellular signal transduction, apoptosis and involved in tumor biology. There are at least 63 substrates which can bind specifically to DPP4 enzyme including growth factors, chemokines, neuro peptides. Furthermore, DPP4 plays a major role in glucose metabolism by cleaving incretins such as glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1).

Description:

DPPIV Human Recombinant produced in High-5 cells is a single, glycosylated polypeptide chain containing 746 amino acids (39-766) and having a molecular mass of 86.4 kDa.
DPPIV is fused to His Tag at C-terminus and purified using conventional chromatography techniques.

Physical Appearance

Sterile Filtered colorless solution.

Formulation:

DPP4 is formulated in 20mM Tris-HCl buffer pH-8, 100mM NaCl, 1mM EDTA and 10% glycerol.

Stability:

DPP4 although stable 4°C for 4 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Unit Definition

One unit will hydrolyze 1 mmole of p-nitroaniline per minute at pH8.0 at 37°C using 1mM of Gly-Pro p-nitroanilde as a substrate.

The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.

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Biological Activity

>20 Units/mg.

Assay Methods

Reaction buffer: 20mM Tris pH8.0, 0.1M NaCl, 1mM EDTA
- Total reaction volume: 100 ul
- Reaction temperature: 37°C. 1. Add the reaction buffer to each well.
2. Add the 10 ul of 10mM substrate (Gly-Pro p-nitroanilide) to each well.
3. Add the enzyme (DPP-4) diluent to each well.
4. Incubate the 96 well plate at 37°C.
5. Read the optical density at 405 nm. Optical density was measured at 405 nm after incubating enzyme solution with 1mM of p-nitroanilid as a substrate. 0ng DPP4= 0 OD at 405nm.
20ng DPP4= 0.075 OD at 405nm.
40ng DPP4= 0.125 OD at 405nm.
60ng DPP4= 0.2 OD at 405nm.
80ng DPP4= 0.275 OD at 405nm.
100ng DPP4= 0.35 OD at 405nm.

Purity

Greater than 95.0% as determined by Analysis by SDS-PAGE.
On SDS-PAGE under denatured condition, apparent molecular weight of glycosylated DPP4 will migrate at approximately 90kDa.

Amino acid sequence

ADP-
SRKTYTLTDYLKNTYRLKLYSLRWISDHEYLYKQENNILVFNAEYGNSSVFLENSTFDE
FGHSINDYSISPDGQFILLEYNYVKQWRHSYTASYDIYDLNKRQLITEERIPNNTQWVT
WSPVGHKLAYVWNNDIYVKIEPNLPSYRITWTGKEDIIYNGITDWVYEEEVFSAYSALW
WSPNGTFLAYAQFNDTEVPLIEYSFYSDESLQYPKTVRVPYPKAGAVNPTVKFFVVNTD
SLSSVTNATSIQITAPASMLIGDHYLCDVTWATQERISLQWLRRIQNYSVMDICDYDES
SGRWNCLVARQHIEMSTTGWVGRFRPSEPHFTLDGNSFYKIISNEEGYRHICYFQIDKK
DCTFITKGTWEVIGIEALTSDYLYYISNEYKGMPGGRNLYKIQLSDYTKVTCLSCELNP
ERCQYYSVSFSKEAKYYQLRCSGPGLPLYTLHSSVNDKGLRVLEDNSALDKMLQNVQMP
SKKLDFIILNETKFWYQMILPPHFDKSKKYPLLLDVYAGPCSQKADTVFRLNWATYLAS
TENIIVASFDGRGSGYQGDKIMHAINRRLGTFEVEDQIEAARQFSKMGFVDNKRIAIWG
WSYGGYVTSMVLGSGSGVFKCGIAVAPVSRWEYYDSVYTERYMGLPTPEDNLDHYRNST
VMSRAENFKQVEYLLIHGTADDNVHFQQSAQISKALVDVGVDFQAMWYTDEDHGIASST
AHQHIYTHMSHFIKQCFSLP-SGRLVPRGSHHHHHH.

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