Dipeptidyl peptidase IV (DPP4) Inhibitor Screening Assay Kit ab133081

Overview

Product name
Dipeptidyl peptidase IV (DPP4) Inhibitor Screening Assay Kit

Detection method
Fluorescent

Precision

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>16</td>
<td></td>
<td></td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Assay type
Enzyme activity

Product overview
Dipeptidyl peptidase IV (DPP4) Inhibitor Screening Assay Kit (ab133081) provides a convenient fluorescence-based method for screening DPP4 inhibitors. The assay uses the fluorogenic substrate, Gly-Pro-4-Aminomethylcoumarin (AMC), to measure DPP4 activity. Cleavage of the peptide bond by DPP releases the free AMC group, resulting in fluorescence that can be analyzed using an excitation wavelength of 350-360 nm and an emission wavelength of 450-465 nm.

Human recombinant DPP IV is included in the kit.

Platform
Microplate reader

Properties

Storage instructions
Please refer to protocols.

Components

<table>
<thead>
<tr>
<th>Components</th>
<th>96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-Well Plate Cover</td>
<td>1 unit</td>
</tr>
</tbody>
</table>
Function

Cell surface glycoprotein receptor involved in the costimulatory signal essential for T-cell receptor (TCR)-mediated T-cell activation. Acts as a positive regulator of T-cell coactivation, by binding at least ADA, CAV1, IGF2R, and PTPRC. Its binding to CAV1 and CARD11 induces T-cell proliferation and NF-kappa-B activation in a T-cell receptor/CD3-dependent manner. Its interaction with ADA also regulates lymphocyte-epithelial cell adhesion. In association with FAP is involved in the pericellular proteolysis of the extracellular matrix (ECM), the migration and invasion of endothelial cells into the ECM. May be involved in the promotion of lymphatic endothelial cells adhesion, migration and tube formation. When overexpressed, enhanced cell proliferation, a process inhibited by GPC3. Acts also as a serine exopeptidase with a dipeptidyl peptidase activity that regulates various physiological processes by cleaving peptides in the circulation, including many chemokines, mitogenic growth factors, neuropeptides and peptide hormones. Removes N-terminal dipeptides sequentially from polypeptides having unsubstituted N-termini provided that the penultimate residue is proline.

Tissue specificity

Expressed specifically in lymphatic vessels but not in blood vessels in the skin, small intestine, esophagus, ovary, breast and prostate glands. Not detected in lymphatic vessels in the lung, kidney, uterus, liver and stomach (at protein level). Expressed in the poorly differentiated crypt cells of the small intestine as well as in the mature villous cells. Expressed at very low levels in the colon.

Sequence similarities

Belongs to the peptidase S9B family. DPP IV subfamily.

Domain

The extracellular cysteine-rich region is necessary for association with collagen, dimer formation and optimal dipeptidyl peptidase activity.

Post-translational modifications

The soluble form (Dipeptidyl peptidase 4 soluble form also named SDPP) derives from the membrane form (Dipeptidyl peptidase 4 membrane form also named MDPP) by proteolytic processing. N- and O-Glycosylated. Phosphorylated. Mannose 6-phosphate residues in the carbohydrate moiety are necessary for interaction with IGF2R in activated T-cells. Mannose 6-phosphorylation is induced during T-cell activation.

Cellular localization

adjacent to the cell surface and Secreted. Detected in the serum and the seminal fluid.

**Functional Studies - Dipeptidyl peptidase IV (DPP4) Inhibitor Screening Assay Kit (ab133081)**

Inhibition of DPP (IV) by Sitagliptin. Vehicle represents 100% initial activity.

**Please note:** All products are “FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES”

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