Recombinant Mouse Reg4

Catalog Number: 4780-RG

DESCRIPTION

Source	*E. coli*-derived Asp23-Thr157, with an N-terminal Met Accession # Q9D8G5
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	16.2 kDa

SPECIFICATIONS

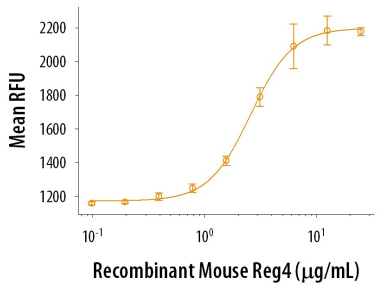
Activity	Measured by the ability of the immobilized protein to support the adhesion and proliferation of HCT-116 human colorectal carcinoma cells under low serum conditions. The ED_{50} for this effect is 2-10 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 300 - 500 µg/mL in sterile, deionized water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity



Immobilized Recombinant Mouse Reg4 (Catalog # 4780-RG) stimulates proliferation of HCT-116 human colorectal carcinoma cells under low serum conditions. The ED_{50} for this effect is 2-10 µg/mL.

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BACKGROUND

Reg4 (regenerating islet-derived protein 4), also called Reg IV or RELP (Reg-like protein), is a 17 kDa secreted glycoprotein belonging to the regenerating gene (Reg) family within the calcium (C-type) dependent lectin superfamily, although carbohydrate binding of Reg4 is calcium-independent (1 - 4). Mouse Reg4 is synthesized as a 157 amino acid (aa) precursor with a 22 aa signal sequence and a 135 aa mature chain that contains a C-type lectin-like domain (CTLD) and two potential N-linked glycosylation sites. Mouse Reg4 shares 68%, 88%, 64% and 64% aa sequence identity with human, rat, canine and porcine Reg4, respectively. Like other members of the regenerating gene family, Reg4 is preferentially expressed in the gastrointestinal (GI) tract (1, 2, 5). Reg4 expression is increased within or near inflammation, dysplasia and metaplasia of the GI epithelium, such as inflammatory bowel disease (Crohn's disease and ulcerative colitis), colon adenocarcinoma, pancreatic cancer, gastric adenocarcinoma, and is often increased in the plasma in these conditions (1 - 3, 5, 6). It is especially associated with neuroendocrine tumors in the GI, as well as some prostate, parathyroid, skin Merkel cell and lung small-cell carcinomas (6 - 8). Reg4 expression is induced by growth factors and promotes phosphorylation and activation of the EGF R (5, 7, 9). Tumor cells expressing Reg4 are generally more mitogenic, metastatic and resistant to apoptosis (10 - 12).

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