Recombinant Rat Reg3A

Catalog Number: 8347-RG

DESCRIPTION

Source	*E. coli*-derived Glu26-Gln174, with a N-terminal Met Accession # BAA04904
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

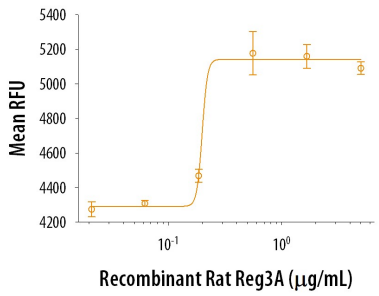
SDS-PAGE	16 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using RT4-D6P2T rat schwannoma cells. The ED_{50} for this effect is 0.1-0.6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in sterile PBS.
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.

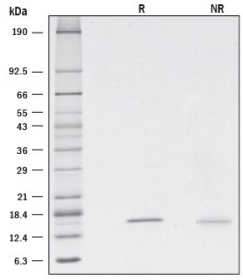
DATA

Bioactivity



Reg3A Induced Cell Proliferation. Recombinant Rat Reg3A (Catalog # 8347-RG) stimulates cell proliferation by RT4-D6P2T rat schwannoma cells. The ED_{50} for this effect is 0.1-0.6 µg/mL.

SDS-PAGE



1 µg/lane of Recombinant Rat Reg3A (Catalog # 8347-RG) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing bands at 16.5 and 16.1 kDa, respectively.

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BACKGROUND

Reg3A (Regenerating islet-derived protein 3 alpha), also known as Reg III-α, PAP2 (pancreatitis-associated protein 2), and Lithostathine 3 in rats, or HIP/PAP (human islet peptide/PAP) in humans, is a secreted 16-17 kDa type III member of the Reg family, which is the group 7 subfamily of C-type lectins (1, 2). The four type III genes (α-δ) in the rat Reg family are thought to have cell-protective and proliferative effects (2-4). Like other Reg proteins, the 149 amino acid (aa) mature rat mouse Reg3A (aa 26-174) contains a small, trypsin-cleavable PAP domain (aa 26-36) and a C-type lectin domain (2, 5). Mature rat Reg3A shares 82% and 58% aa sequence identity with mouse and human Reg3A, (also called HIP/PAP) respectively. Rodent Reg3A is mainly expressed in the intestinal tract and the exocrine pancreas by acinar cells and islet α cells;, and it is up-regulated by IL-6 enhances expression (1, 3, 6, 7). Pancreatic Reg3A expression is also increased in mouse models of type 1 diabetes (4). In the rat brain, nerve injury and inflammation increase Reg3A expression in dorsal root ganglion neurons, while low dopamine levels duringin stress induce its production by melanocytes (8, 9). Treatment of rat macrophages with Reg3A causes up-regulation of NFkB signaling and modulation of cytokine production (2, 10). In humans, Reg3A expression and proteolytic activation in the small intestine areis thought to have a protective effect against infection and TNF-α-induced stress (11).

References:

1. Narushima, Y *et al.* (1997) Gene **185**:159.
2. Viterbo, D. *et al.* (2008) J. Immunol. **181**:1959.
3. Cui, W. *et al.* (2009) Growth Factors **27**:195.
4. Lu, Y. *et al.* (2006) Am. J. Physiol. Endocrinol. Metab. **291**:E50.
5. Graf, R. *et al.* (2001) J. Biol. Chem. **276**:21028.
6. Wang, Y. *et al.* (2011) Growth Factors **29**:72.
7. Gurr, W. *et al.* (2007) Diabetes **56**:34.
8. He, S.Q. *et al.* (2010) Mol. Pain **6**:23.
9. Konishi, H. *et al.* (2011) Biochem. Biophys. Res. Commun. **407**:7.
10. Viterbo, D. *et al.* (2008) J. Immunol. **181**:1948.
11. Medveczky, P. *et al.* (2009) Biochem. J. **420**:335.

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