SANTA CRUZ BIOTECHNOLOGY, INC.

Exendin 4 (35): sc-73493

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Exendin 4 is a 39 amino acid peptide produced exclusively by the salivary glands of the Gila monster, *Heloderma suspectum*. It acts as an agonist of the glucagon-like peptide (GLP) receptor that has anorexigenic and fat-reducing properties. Plasma levels of Exendin 4 increase in response to feeding, as it is released from the salivary glands in response to mechanical stimulation. Exendin 4 possesses anti-apoptotic and β cell proliferative properties, and induces the phosphorylation of Raf-1 and extracellular-signal-regulated kinase (ERK) as well as the level of phosphorylated cAMP response element-binding protein (CREB) and the cyclin D1 gene. Exendin 4 has prolonged glucose-lowering action that may contribute to its antidiabetic effect in several animal models of type 2 diabetes.

REFERENCES

1. Young, A.A., Gedulin, B.R., Bhavsar, S., Bodkin, N., Jodka, C., Hansen, B. and Denaro, M. 1999. Glucose-lowering and Insulin-sensitizing actions of Exendin 4: studies in obese diabetic (ob/ob, db/db) mice, diabetic fatty Zucker rats, and diabetic rhesus monkeys *(Macaca mulatta)*. Diabetes 48: 1026-1034.
2. Szayna, M., Doyle, M.E., Betkey, J.A., Holloway, H.W., Spencer, R.G., Greig, N.H. and Egan, J.M. 2000. Exendin 4 decelerates food intake, weight gain, and fat deposition in Zucker rats. Endocrinology 141: 1936-1941.
3. Ding, X., Saxena, N.K., Lin, S., Gupta, N.A., Gupta, N. and Anania, F.A. 2005. Exendin 4, a glucagon-like protein-1 (GLP-1) receptor agonist, reverses hepatic steatosis in ob/ob mice. Hepatology 43: 173-181.
4. 2006. Islet pre-culture and recipient treatment with Exendin 4 improves metabolic control after rat islet transplantation in athymic mice. Transplantation 82: 993.
5. Christel, C.M. and Denardo, D.F. 2006. Release of Exendin 4 is controlled by mechanical action in Gila monsters, *Heloderma suspectum*. Comp. Biochem. Physiol., Part A, Mol. Integr. Physiol. 143: 85-88.
6. Christel, C.M. and Denardo, D.F. 2006. Absence of Exendin 4 effects on postprandial glucose and lipids in the Gila monster, *Heloderma suspectum*. J. Comp. Physiol. B, Biochem. Syst. Environ. Physiol. 177: 129-134.
7. Kim, M.J., Kang, J.H., Park, Y.G., Ryu, G.R., Ko, S.H., Jeong, I.K., Koh, K.H., Rhie, D.J., Yoon, S.H., Hahn, S.J., Kim, M.S. and Jo, Y.H. 2006. Exendin 4 induction of cyclin D1 expression in INS-1 β cells: involvement of cAMP-responsive element. J. Endocrinol. 188: 623-633.
8. Sharma, A., Sörenby, A., Wernerson, A., Efendic, S., Kumagai-Braesch, M. and Tibell, A. 2006. Exendin 4 treatment improves metabolic control after rat islet transplantation to athymic mice with streptozotocin-induced diabetes. Diabetologia 49: 1247-1253.
9. Ranta, F., Avram, D., Berchtold, S., Düfer, M., Drews, G., Lang, F. and Ullrich, S. 2006. Dexamethasone induces cell death in Insulin-secreting cells, an effect reversed by Exendin 4. Diabetes 55: 1380-1390.

SOURCE

Exendin 4 (35) is a mouse monoclonal antibody raised against carrier coupled Exendin 4 of *Heloderma suspectum* origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Exendin 4 (35) is recommended for detection of Exendin 4 of *Heloderma suspectum* origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with human GLP1, GLP2 or glucagon.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.