

## GLP-1 (Glucagon-Like Peptide-1), Active

**Analyte:** Glucagon-Like Peptide 1 Active

**Specimen Type:** Plasma from BD P700 or P800, EDTA Plasma with preservatives; contact PBI for collection instructions

**Optimum Volume:** 0.5 mL

**Stability:**

2-8 Degrees C	-20 Degrees C	-70 Degrees C
6 hours	6 months	6 months

**Reporting Units:** pmol/L

**Method:** Electrochemiluminescent Immuno

**Biological or Clinical Significance:**

Glucagon-like peptide 1 (GLP-1) is a 3.5 kD incretin hormone secreted primarily from the enteroglucagon-producing L-cells in the small intestine. The main actions of GLP-1 are stimulation of insulin secretion, reduction of gastric emptying and inhibition of glucagon secretion. GLP-1 also appears to be a physiological regulator of appetite and food intake. Decreased secretion of GLP-1 may contribute to the development of obesity, and exaggerated secretion could be responsible for postprandial reactive hypoglycemia. GLP-1 (7-36) amide and GLP-1 (7-37) are the biologically active forms of GLP-1. In vivo, the active forms are rapidly degraded by the dipeptidyl peptidase IV (DPP-IV), therefore blood collected for assays that quantitatively measure active forms of GLP-1 must be immediately preserved with DPP-IV inhibitors.

**Principle of Test Method:**

The GLP-1 active assay is an ultra-sensitive kit designed to quantify human active GLP-1 in human plasma, serum, and other biological media. This immunoassay employs electrochemiluminescent detection.

**References:**

1. Theodorakis MJ, Carlson O, Michopoulos S, Doyle ME, Juhaszova M, Petraki K, Egan JM. Human duodenal enteroendocrine cells: Source of both incretin peptides, GLP-1 and GIP. *Am J Physiol Endocrinol Metab.* 2006; 290: E550-559.
2. Deacon CF, Johnsen AH, Holst JJ. Degradation of glucagon-like peptide-1 by human plasma in vitro yields an n-terminally truncated peptide that is a major endogenous metabolite in vivo. *J Clin Endocrinol Metab* 1995; 80: 952-957.
3. Meier JJ, Nauck MA, Kranz D, Holst JJ, Deacon CF, Gaeckler D, Schmidt WE, Gallwitz. Secretion, degradation, and elimination of glucagon-like peptide 1 and gastric inhibitory polypeptide in patients with chronic renal insufficiency and healthy control subjects. *Diabetes* 2004; 53:654-662.
4. Kim BJ, Carlson OD, Jang HJ, Elahi D, Berry C and Egan JM. Peptide YY is secreted after oral glucose administration in a gender-specific manner. *J Clin Endocrinol Metab* 2005, 90: 6665-6671