ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Bovine Insulin-Agarose

Cat. INSL15-AS Bovine Insulin-Agarose (Aff matrix) **SIZE**: 0.5 ml (supplied in 1 ml buffer)

Insulin is the principal hormone responsible for glucose metabolism. It is synthesized in the cells of the islets of Langerhans as the precuror, proinsulin, which is processed to form C-peptide and insulin and both are secreted in equimolar amounts into the portal circulation. The mature insulin molecule comprises two polypeptide chairs, the A chain (21 amino acids) and the B chain (30 amino acids), which are linked by two inter-chain disulphide bridges. There is, in addition, a single intra-chain disulphide bridge in the A chain. The sequence of insulin is highly conserved in mammalian species, and is homologous with the insulin-like growth factors IGF-I and IGF-II. Secretion of insulin is mainly controlled by plasma glucose concentration and the hormones have a number of important metabolic actions. Its principal function is to control the uptake and utilization of glucose in peripheral tissues via the glucose transporter. This and other hypoglycemic activities, such as the inhibition of hepatic gluconeogenesis and glycogenolysis are counteracted by the hyperglycemic hormones including glucagons, epinephrine (adrenaline), growth hormone and cortisol. Insulin concentrations are severely reduced in insulin-dependent diabetes (DDM) and some other conditions such as hypopituitarism. Insulin concentrations may be raised in non-insulin-dependant diabetes (NIDDM), obesity, insulinoma and some endocrine dysfunctions such as Cushing's Syndrome and Acromegaly1, 2 The main clinical utility measurement is in the investigation of hypoglycemia. Insulin assay have been used in the following applications:

Source of Antigen and Antibodies

Purified Bovine insulin (#INSL15-N-10) was coupled to agarose at ~4-5 mg/ml of agarose beads (**Cat # INSL15-AS**) using proprietary methods. The affinity matrix is supplied in PBS pH 7.4 containing 0.05% azide (50% agarose:buffer or 1:1 suspension; 0.5 ml refers to 0.5 ml of gel volume). Insulin-agarose is supplied in 2-ml small column but it can be removed and used as necessary.

Store at 4oC. DO NOT FREEZE.

Suggested uses

IP to remove or enrich insulin antibodies insulin-binding proteins or substances.

We recommend processing approx. 1-5 ml sample per 1 ml of the beads or it can be scaled up accordingly. Load samples diluted 1:5 in PBS onto the column at room temp. Collect unbound fraction containing insulin-unbound material. It may be necessary to repeat this adsorption if the sample contain high concentrations of insulin-binding material.

The column can be regenerated by passing 3 mls of 0.1M Glycine buffer, pH 2.5, and then immediately washing with PBS pH 7.4 with 10-20 volumes. Store column in PBS containing 0.05% azide at 4oC. DO NOT FREEZE the beads at any stage.

Immobilized insulin can also be used to affinity purify antibodies to insulin.

This product is for in vitro research use only.

Related material available from ADI

Human, mouse, rat Insulin ELISA kits

Human mouse, rat anti-insulin ELISA

Recombinant and natural bovine, Bovine, and human insulin

INSL15-AS 120613A

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