

# diabetes

A JOURNAL OF  
THE AMERICAN  
DIABETES  
ASSOCIATION®

Diabetes induction by subdiabetogenic doses of streptozotocin in BALB/cBOM mice: noninvolvement of host B-lymphocyte functions MARIE-LUISE BLUE AND SEUNG-IL SHIN	105
In vitro characterization of biosynthetic human proinsulin D. A. PODLECKI, B. H. FRANK, AND J. M. OLEFSKY	111
Effects on glucose-induced insulin secretion of lipoxygenase-derived metabolites of arachidonic acid STEWART A. METZ, ROBERT C. MURPHY, AND WILFRED FUJIMOTO	119
Von Willebrand factor (VIII R:Ag), fibronectin, and insulin-like growth factors I and II in diabetic retinopathy and nephropathy R. PRESTON LAMBERTON, A. DAVID GOODMAN, AARON KASSOFF, CHERILYN L. RUBIN, DONALD H. TREBLE, THOMAS M. SABA, THOMAS J. MERIMEE, AND W. JEAN DODDS	125
Glucosylation of low-density lipoproteins to an extent comparable to that seen in diabetes slows their catabolism URS P. STEINBRECHER AND JOSEPH L. WITZTUM	130
Anti-beta-cell immunity in insulinopenic diabetic dogs PIERRE SAI, MONIQUE DEBRAY-SACHS, ANDRE JONDET, WILLY GEPTS, AND ROGER ASSAN	135
A ( <sup>3</sup> H)2-deoxyglucose method for comparing rates of glucose metabolism and insulin responses among rat tissues in vivo: validation of the model and the absence of an insulin effect on brain FREDERICK G. HOM, CHARLES J. GOODNER, AND MARY ANN BERRIE	141
Insulin dose-response characteristics among individual muscle and adipose tissues measured in the rat in vivo with <sup>3</sup> (H)2-deoxyglucose FREDERICK G. HOM AND CHARLES J. GOODNER	153
Chemiluminescence as an index of drug-induced free radical production in pancreatic islets KOHTARO ASAYAMA, DENIS ENGLISH, ALFRED E. SLONIM, AND IAN M. BURR	160
Concanavalin A and alloxan interactions on glucose-induced insulin secretion and biosynthesis from islets of Langerhans MOHAMED A. VIRJI, MICHAEL W. STEFFES, AND RICHARD D. ESTENSEN	164
Abnormal islet and adipocyte function in young B-cell-deficient rats with near-normoglycemia D. F. TRENT, D. J. FLETCHER, J. M. MAY, S. BONNER-WEIR, AND G. C. WEIR	170
A polymorphic locus near the human insulin gene is associated with insulin-dependent diabetes mellitus GRAEME I. BELL, SHIRO HORITA, AND JOHN H. KARAM	176
REVIEW	
Use of glucose uptake and glucose clearance for the evaluation of insulin action in vivo I. GOTTESMAN, L. MANDARINO, AND J. GERICH	184
RAPID PUBLICATIONS	
Evidence for suppression of hepatic glucose-6-phosphatase with carbohydrate feeding CHRISTOPHER B. NEWGARD, DANIEL W. FOSTER, AND J. DENIS McGARRY	192
Direct measurement of polyol pathway activity in the ocular lens R. GILBERTO GONZÁLEZ, PATRICK BARNETT, JAMES AGUAYO, HONG-MING CHENG, AND L. T. CHYLACK, JR.	196
The human glucagon gene is located on chromosome 2 JAMES V. TRICOLI, GRAEME I. BELL, AND THOMAS B. SHOWS	200
ORGANIZATION SECTION	203
REVIEWERS OF MANUSCRIPTS	204





# Tolinase® Tablets and diet help put the

(tolazamide)

In most type II diabetic patients, insulin levels may be normal or even elevated, but glucose metabolism is less than normal. Tolinase Tablets pharmacologically influence the way the body metabolizes glucose.

## The insulin paradox

The coexistence of normal or elevated insulin levels and elevated glucose levels is a common paradox in patients with type II (non-insulin-dependent) diabetes. This condition suggests a lack of tissue sensitivity to endogenous insulin—a phenomenon many investigators today refer to as cellular insulin resistance.

The failure of normal or above-normal amounts of endogenous insulin to produce a normal response in terms of glucose metabolism is believed to result most often from one or more underlying factors, such as beta-cell defects (inadequate or delayed initial response), defects at the cellular receptor and/or postreceptor level, or hepatic defects.

## Initial therapy: A rational approach

Since insulin insufficiency is probably not the basic problem in type II diabetes, diet and exercise are considered the cornerstones of therapy because they help correct the cause of the underutilization of insulin (eg, receptor defect) and may help lower blood glucose. If diet and regular exercise fail to control glucose levels adequately, Tolinase Tablets are an appropriate addition to the regimen.

## How Tolinase Tablets influence glucose metabolism

The primary mode of action of Tolinase Tablets is to lower serum glucose in responsive patients by stimulating the release of additional insulin (1). As therapy continues, it is believed that Tolinase promotes peripheral glucose metabolism by helping to correct defects at the cellular receptor (2) and postreceptor (3) level. In this environment, tissue

sensitivity and responsiveness to insulin increase, glucose levels decrease, and insulin levels frequently return toward normal.

## Once-a-day dosage with Tolinase Tablets

has been shown to be just as effective as a divided dose in the treatment of non-insulin-dependent diabetes.

As with all sulfonylureas, hypoglycemia may occur. No sulfonylurea should be given to patients with serious kidney, liver, or endocrine disease.

Tolinase is not indicated in patients with a history of repeated ketoacidosis or coma.

# Tolinase® 100, 250 & 500 mg table

(tolazamide)

## Once a day

For a brief summary of prescribing information, please turn the page

**Upjohn**

The Upjohn Company  
Kalamazoo, Michigan 49001