Chromium
Helps insulin attach to cell’s receptors increasing glucose uptake into cell; Deficiency can cause insulin resistance; Supplementation trials show dose-dependent benefits for type II diabetics.

Lipoic Acid
Enhances glucose uptake in skeletal muscle tissue; Improves glucose tolerance in type 2 diabetics; Very effective treatment for diabetic neuropathy.

Biotin
Stimulates glucose-induced insulin secretion in pancreatic B-cells; High dose biotin can improve glycemic control in diabetics.

Magnesium
Deficiency reduces insulin sensitivity; Low magnesium exacerbates foot ulcers in diabetics.

Zinc
Needed in the synthesis, storage and secretion of insulin; Protects pancreatic B-cells from damage; Affects the expression of genes linked to diabetes.

Vitamin B12
Deficiency common in diabetics because metformin depletes B12.

Vitamin B3
Preserves B-cell function in type I diabetics; Part of GTF (glucose tolerance factor) which facilitates insulin binding.

Vitamin D
Lowers risk of type I and 2 diabetes; Suppresses inflammation of pancreatic B-cells; Vitamin D receptor gene linked to diabetes.

Vitamin E
Confers protection against diabetes by protecting pancreatic B-cells from oxidative stress induced damage; May prevent progression of type I diabetes.

Vitamin C
Lowers glycosylated hemoglobin (HbA1c) and fasting and post-meal glucose levels in type 2 diabetics.

Vitamin D
Protects kidney from diabetes related damage; Improves glycemic control in type 2 diabetics.

Inositol
Evidence suggests that inositol may be effective in treating diabetic neuropathy.

Carnitine
Reduces and even prevents pain from diabetic neuropathy; Improves insulin sensitivity by increasing glucose uptake and storage.

Glutamine
Stimulates a hormone called GLP-1 (glucagon-like peptide 1) that regulates insulin secretion after meals; Improves insulin signaling and sensitivity.

Glutathione & Cysteine
Glutathione-containing enzymes protect B-cells which are particularly sensitive to oxidative stress; Type 2 diabetics have abnormal antioxidant status; Supplementation with the glutathione precursor cysteine restores antioxidant status.

Coenzyme Q10
Acts as a powerful antioxidant, reducing oxidative stress in the body.

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REFERENCES


