

# Diabetes-Associated Mutations in Human Insulin: Cryo-EM and Photo-Cross-Linking Studies of A-Chain Variant Insulin

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Citation Report

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Chiral Mutagenesis of Insulin. Foldability and Function Are Inversely Regulated by a Stereospecific Switch in the B Chain. <i>Biochemistry</i> , 2005, 44, 4984-4999.  | 2.5 | 60        |
| 3  | Model for the complex between the insulin-like growth factor I and its receptor: towards designing antagonists for the IGF-1 receptor. <i>Protein Engineering, Design and Selection</i> , 2006, 19, 377-384.   | 2.1 | 22        |
| 4  | The first three domains of the insulin receptor differ structurally from the insulin-like growth factor 1 receptor in the regions governing ligand specificity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 12429-12434. | 7.1 | 117       |
| 5  | Chiral Mutagenesis of Insulin. <i>Journal of Biological Chemistry</i> , 2006, 281, 22386-22396.  | 3.4 | 39        |
| 6  | Toward the Active Conformation of Insulin. <i>Journal of Biological Chemistry</i> , 2006, 281, 24900-24909.  | 3.4 | 49        |
| 7  | A Conserved Histidine in Insulin Is Required for the Foldability of Human Proinsulin. <i>Journal of Biological Chemistry</i> , 2006, 281, 24889-24899.   | 3.4 | 42        |
| 8  | Complementation Analysis Demonstrates That Insulin Cross-links Both $\hat{I}\pm$ Subunits in a Truncated Insulin Receptor Dimer. <i>Journal of Biological Chemistry</i> , 2007, 282, 13754-13758.  | 3.4 | 34        |
| 9  | A Novel Binding Site for the Human Insulin-like Growth Factor-II (IGF-II)/Mannose 6-Phosphate Receptor on IGF-II. <i>Journal of Biological Chemistry</i> , 2007, 282, 18886-18894.   | 3.4 | 35        |
| 10 | The A-chain of Insulin Contacts the Insert Domain of the Insulin Receptor. <i>Journal of Biological Chemistry</i> , 2007, 282, 35337-35349.  | 3.4 | 43        |
| 11 | Structural insights into ligand-induced activation of the insulin receptor. <i>Acta Physiologica</i> , 2008, 192, 3-9.   | 3.8 | 50        |
| 12 | Insulin receptor structure and its implications for the IGF-1 receptor. <i>Current Opinion in Structural Biology</i> , 2007, 17, 699-705.  | 5.7 | 139       |
| 13 | The insulin and EGF receptor structures: new insights into ligand-induced receptor activation. <i>Trends in Biochemical Sciences</i> , 2007, 32, 129-137.  | 7.5 | 122       |
| 14 | Design of an Active Ultrastable Single-chain Insulin Analog. <i>Journal of Biological Chemistry</i> , 2008, 283, 14703-14716.  | 3.4 | 55        |
| 15 | Importance of the Solvent-Exposed Residues of the Insulin B Chain $\hat{I}\pm$ -Helix for Receptor Binding. <i>Biochemistry</i> , 2008, 47, 4743-4751.   | 2.5 | 47        |
| 16 | Structural Basis for the Lower Affinity of the Insulin-like Growth Factors for the Insulin Receptor. <i>Journal of Biological Chemistry</i> , 2008, 283, 2604-2613.  | 3.4 | 58        |
| 17 | Design of an Insulin Analog with Enhanced Receptor Binding Selectivity. <i>Journal of Biological Chemistry</i> , 2009, 284, 32178-32187.   | 3.4 | 13        |
| 18 | Decoding the Cryptic Active Conformation of a Protein by Synthetic Photoscanning. <i>Journal of Biological Chemistry</i> , 2009, 284, 14597-14608.   | 3.4 | 43        |
| 19 | Human insulin A-chain peptide analog(s) with <i>in vitro</i> biological activity. <i>Cell Biochemistry and Function</i> , 2009, 27, 370-377.   | 2.9 | 1         |

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 20 | Ligand-induced activation of the insulin receptor: a multi-step process involving structural changes in both the ligand and the receptor. <i>BioEssays</i> , 2009, 31, 422-434.   | 2.5  | 127       |
| 21 | A Novel Approach to Identify Two Distinct Receptor Binding Surfaces of Insulin-like Growth Factor II. <i>Journal of Biological Chemistry</i> , 2009, 284, 7656-7664.  | 3.4  | 33        |
| 22 | Insulin Receptor Isoforms and Insulin Receptor/Insulin-Like Growth Factor Receptor Hybrids in Physiology and Disease. <i>Endocrine Reviews</i> , 2009, 30, 586-623.   | 20.1 | 889       |
| 23 | Enhancing the Activity of a Protein by Stereospecific Unfolding. <i>Journal of Biological Chemistry</i> , 2009, 284, 14586-14596.   | 3.4  | 40        |
| 24 | Genetic variations in the C $\mu$ X domain of human membrane-bound IgE. <i>Immunogenetics</i> , 2010, 62, 273-280.  | 2.4  | 3         |
| 25 | An Achilles' Heel in an Amyloidogenic Protein and Its Repair. <i>Journal of Biological Chemistry</i> , 2010, 285, 10806-10821.  | 3.4  | 49        |
| 26 | Coffee Components Inhibit Amyloid Formation of Human Islet Amyloid Polypeptide in Vitro: Possible Link between Coffee Consumption and Diabetes Mellitus. <i>Journal of Agricultural and Food Chemistry</i> , 2011, 59, 13147-13155.   | 5.2  | 117       |
| 27 | The insulin receptor changes conformation in unforeseen ways on ligand binding: Sharpening the picture of insulin receptor activation. <i>BioEssays</i> , 2013, 35, 945-954.  | 2.5  | 65        |
| 28 | All-atom structural models of insulin binding to the insulin receptor in the presence of a tandem hormone-binding element. <i>Proteins: Structure, Function and Bioinformatics</i> , 2013, 81, 1017-1030.   | 2.6  | 36        |
| 29 | Flexibility in the Insulin Receptor Ectodomain Enables Docking of Insulin in Crystallographic Conformation Observed in a Hormone-Bound Microreceptor. <i>Membranes</i> , 2014, 4, 730-746.  | 3.0  | 7         |
| 30 | Analysis of receptor-ligand binding by photoaffinity cross-linking. <i>Science China Chemistry</i> , 2014, 57, 232-242.   | 8.2  | 4         |
| 31 | Effects of several quinones on insulin aggregation. <i>Scientific Reports</i> , 2014, 4, 5648.  | 3.3  | 118       |
| 32 | Wildlife sequences of islet amyloid polypeptide (IAPP) identify critical species variants for fibrillization. <i>Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis</i> , 2015, 22, 194-202. | 3.0  | 11        |
| 33 | Diabetes mellitus caused by mutations in human insulin: analysis of impaired receptor binding of insulins <i>Wakayama</i> , <i>Los Angeles</i> and <i>Chicago</i> using pharmacoinformatics. <i>Journal of Biomolecular Structure and Dynamics</i> , 2017, 35, 724-737.                   | 3.5  | 13        |
| 34 | Computational study of the activity, dynamics, energetics and conformations of insulin analogues using molecular dynamics simulations: Application to hyperinsulinemia and the critical residue B26. <i>Biochemistry and Biophysics Reports</i> , 2017, 11, 182-190.                      | 1.3  | 4         |
| 35 | In vitro and in vivo insulin amyloid degradation mediated by Serratiopeptidase. <i>Materials Science and Engineering C</i> , 2017, 70, 728-735.   | 7.3  | 28        |
| 36 | Capreomycin inhibits the initiation of amyloid fibrillation and suppresses amyloid induced cell toxicity. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2018, 1866, 549-557.   | 2.3  | 57        |
| 37 | Deciphering the enhanced inhibitory, disaggregating and cytoprotective potential of promethazine towards amyloid fibrillation. <i>International Journal of Biological Macromolecules</i> , 2018, 106, 851-863.  | 7.5  | 14        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 38 | Understanding insulin and its receptor from their three-dimensional structures. <i>Molecular Metabolism</i> , 2021, 52, 101255.                                 | 6.5 | 60        |
| 39 | Insulin and IGF-I Receptor Structure and Binding Mechanism. , 2007, , 1-32.   |     | 7         |
| 40 | A Comparative Structural Bioinformatics Analysis of the Insulin Receptor Family Ectodomain Based on Phylogenetic Information. <i>PLoS ONE</i> , 2008, 3, e3667. | 2.5 | 45        |
| 41 | A Brief Atlas of Insulin. <i>Current Diabetes Reviews</i> , 2022, 19, .   | 1.3 | 2         |
| 42 | A Review of the Biosynthesis and Structural Implications of Insulin Gene Mutations Linked to Human Disease. <i>Cells</i> , 2023, 12, 1008.                      | 4.1 | 2         |
| 43 | The crucial role and mechanism of insulin resistance in metabolic disease. <i>Frontiers in Endocrinology</i> , 0, 14, .   | 3.5 | 21        |
| 44 | The three-dimensional structure of insulin and its receptor. <i>Vitamins and Hormones</i> , 2023, , 151-185.  | 1.7 | 3         |
| 45 | Insulin Resistance: The Increased Risk of Cancers. <i>Current Oncology</i> , 2024, 31, 998-1027.  | 2.2 | 0         |
| 46 | Changes in Cells Associated with Insulin Resistance. <i>International Journal of Molecular Sciences</i> , 2024, 25, 2397.                                       | 4.1 | 0         |