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Amino Acid Sequences of Cytotoxin-like Basic Proteins Derived from Cobra Venoms.

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Cobra venoms toxins contain three main classes of homologous proteins; long neurotoxins, short neurotoxins, and cytotoxins (cardiotoxins). Cytotoxins are highly basic polypeptides consisting of 60 amino acid residues, and exhibit cytotoxic activities against many kinds of cells, including Yoshida sarcoma cells. Amino acid sequences of cytotoxin-like basic proteins (CLBPs), purified from the venoms of Formosan cobra (*Naja naja atra*) and Indian cobra (*Naja naja*), were reinvestigated. The determined amino acid sequences differed from those reported previously by Takechi *et al.* The sequence of CLBPs at residues 25-30 was found to be hydrophilic as compared with those of cytotoxins.

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Treatment of Experimental Allergic Myasthenia Gravis with a New Immunosuppressant : 15-Deoxyspergualin.

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Myasthenia gravis (MG) is an autoimmune disease in which antibodies inhibit the acetylcholine receptor (AChR) of neuromuscular junctions. In our research, we produced experimental allergic myasthenia gravis (EAMG) rat models, immunized with AChR prepared from electric organ of *Torpedo californica*, and administered 15-deoxyspergualin (DSP) to them in order to find a practical application to human MG. In conclusion, 15-DSP can prevent the elevation of anti-AChR antibodies and histologic changes in EAMG. Less than 5.0 mg/kg per day of 15-DSP may by useful in treating human MG. 15-DSP is a new immunosuppressant developed as an antitumor antibiotic by Umezawa *et al.*

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Role of Ca^{2+} in the Substrate Binding and Catalytic Functions of Snake Venom Phospholipase A_2.

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The effects of Ca^{2+} on the kinetic parameters for the hydrolysis of monodispersed and micellar phosphatidylcholines, catalyzed by a cobra enzyme and by *mamushi* and *habu* enzymes, were studied by the pH stat assay method at 25°C, pH 8.0-8.2, and ionic strength 0.1-0.2. The results were compared with those reported for other group I and II enzymes were classified according to differences in the polypeptide-chain length and the intramolecular-disulfide bondings. The Ca^{2+} binding was clearly shown to be essential for the catalysis of all the phospholipases A_2. However, the substrate binding to group I enzymes was found to be independent of the Ca^{2+} binding.