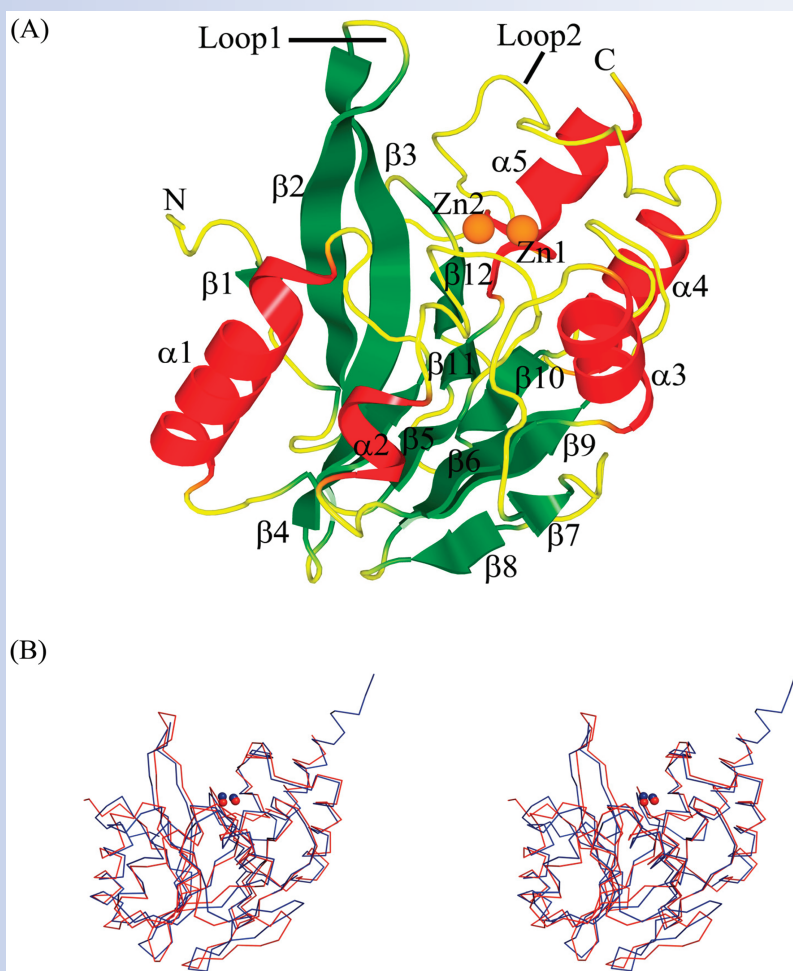


# JB

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- Biochemistry in Cell Membranes
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#### **Molecular Biology:** Molecular Biology General

- Genes and Other Genetic Materials
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- Gene Expression
- Protein Synthesis
- DNA-Protein Interaction
- RNA Processing
- Genetic Engineering
- Genetic Diseases
- Molecular Genetics
- Molecular Evolution
- Bioinformatics

**Fields:** Topics

**Cell:** Cell General

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Cytoskeleton, Cell Motility, and Cell Shape  
Extracellular Matrices and Cell Adhesion Molecules  
Cell Cycle  
Receptors and Signal Transduction  
Stress Proteins and Molecular Chaperones  
Cell Death  
Differentiation, Development, and Aging  
Neurobiology  
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Biomaterials  
Bioactive Substances  
Synthetic Peptides and Oligonucleotides  
Gene and Protein Engineering  
RNA Technology  
Glycotechnology  
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## Author Index

- |                          |                        |                            |                     |
|--------------------------|------------------------|----------------------------|---------------------|
| Arakawa Y., 905          | Kagawa W., 833         | Nozaki N., 917             | Tanaka K., 793      |
|                          | Kameshita I., 799, 857 | Numata Y., 917             | Tanaka T., 867, 875 |
| Briones-Nagata M.P., 895 | Kaneko S., 819         |                            | Tashiro S., 833     |
|                          | Kawakami H., 809       | Ochiai Y., 823             | Todd A.G., 885      |
| Cheng R.H., 843          | Kimura Y., 793         | Ogino C., 867, 875         | Togawa S., 867      |
|                          | Kondo A., 867, 875     | Omichi K., 851             | Tsukamoto K., 809   |
| Dohmae N., 833           | Kurosaki H., 905       | Omura T., 843              | Tsukihara T., 843   |
| Doi S., 851              | Kurumizaka H., 833     | Ozawa H., 823              |                     |
|                          |                        |                            | Wachino J.-i., 905  |
| Eggleton P., 885         | Lorson C.L., 885       | Saito K., 833              | Wakabayashi Y., 781 |
|                          |                        | Saitoh H., 833             | Wang C.-Y., 843     |
| Fujita-Yamaguchi Y., 809 | Maeda H., 895          | Sakai K., 809              | Watabe S., 823      |
|                          | Makino Y., 851         | Sato R., 809               | Wu B., 843          |
| Hagiwara K., 843         | Matsuda K., 905        | Shaw D.J., 885             |                     |
| Hammar L., 843           | Miyazaki M., 895       | Shigeri Y., 857            | Xing L., 843        |
| Hasegawa N., 917         | Miyazaki N., 843       | Shimizu N., 809            |                     |
| Higashiura A., 843       | Mizuno M., 809         | Shimomura S., 799          | Yajima Y., 809      |
|                          | Mori T., 781           | Sueyoshi N., 799, 857      | Yamagata Y., 905    |
| Iguchi Y., 875           | Morse R., 885          | Sugiyama Y., 857           | Yamaguchi H., 895   |
| Ishida A., 857           |                        | Suzuki H., 833             | Yamaguchi Y., 905   |
| Ishihara S., 917         | Nakagawa A., 843       | Suzuki T., 833             | Yamaguchi Y., 905   |
| Ishii J., 867, 875       | Nakata M., 809         |                            | Yokoyama S., 833    |
| Ishikura A., 867, 875    | Nakayama H., 875       | Tajima S., 799             | Yoshimura A., 781   |
| Ishimi Y., 917           | Nimura T., 857         | Takasaki-Matsumoto A., 809 | Young P.J., 885     |
| Itaya M., 819            | Nishida T., 799        | Takashio N., 905           | Yuasa N., 809       |
| Izawa K., 875            | Nishio K., 799         | Takayanagi A., 809         |                     |
|                          | Nomura M., 799         |                            |                     |

**COVER:** Metallo- $\beta$ -lactamases can hydrolyze most  $\beta$ -lactams, which are involved in the  $\beta$ -lactam resistance mechanism in Gram-negative bacteria. The cover image depicts crystal structure of IND-7 metallo- $\beta$ -lactamase from *Chryseobacterium indologenes* clinical isolate at 1.65-Å resolution (A); and superposition of the C $\alpha$  tracing of IND-7 (red) with CcrA metallo- $\beta$ -lactamase from *Bacteroides fragilis* (blue) (B). The overall structure of IND-7 exhibits a four-layered  $\alpha\beta/\beta\alpha$  fold, in which dinuclear zinc(II) active site (Zn1 and Zn2) is located at the bottom of a shallow groove. Superimposing of the structures of IND-7 and CcrA with 28% sequence homology reveals a similarity in the protein fold in their structures. In dinuclear zinc(II) active site, however, the zinc(II) coordination geometry of IND-7 is notably different from those of CcrA and other subclass B1 metallo- $\beta$ -lactamases. The Zn1 coordination geometry changes from tetrahedral, found in other metallo- $\beta$ -lactamases, to trigonal bipyramidal, whereas that of Zn2 changes from trigonal bipyramidal to tetrahedral. [See Yamaguchi *et al.*, p. 905].