

Molecular Pathogenic Microbiology

2 units (selection)

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Target This class aims to understand the latest findings on molecular feature and application of virulence factors expressed in pathogenic microorganisms.

Outline The latest findings on virulence factors concerned with infectious diseases by pathogenic microorganisms are introduced in this class. Assignments on the introduced topics are set and marked in portfolio system.

Style Lecture in combination with Portfolio

Keyword *pathogenic microorganism, virulence factor, infection*

Relational Lecture “**Biomolecular Engineering**”(0.9)

Requirement Students are required to have a good understanding of undergraduate-level of microbiology and related subjects

Goal

1. To understand the latest molecular information on virulence factors of pathogenic microorganisms
2. To understand the application technology of microbial virulence factors in molecular level

Schedule

1. Bacterial toxins 1: CDC pore-forming toxins
2. Bacterial toxins 2: other pore-forming toxins
3. Bacterial toxins 3: neuron-directed enzymatic toxins
4. Bacterial toxins 4: gastrointestinal tissue-directed enzymatic toxins
5. Bacterial toxins 5: translational step-directed enzymatic toxins
6. Bacterial toxins 6: superantigens
7. Plasmids carrying microbial-resistant genes
8. fungal toxins 1: small molecular toxins
9. fungal toxins 2: protein toxins
10. Other Bacterial virulence factors 1: adherence factors
11. Other Bacterial virulence factors 2: enzymes
12. Other Bacterial virulence factors 3: secretion systems
13. Viral virulence factors 1: adherence factors
14. Viral virulence factors 2: enzymes
15. Viral virulence factors 3: transcriptional factors

Evaluation Criteria Assignments count 100%

Textbook To be introduced in the class

Reference To be introduced in the class

Contents <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216881>

Student Able to be taken by only specified class(es)

Contact

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MAIL (Office Hour: Monday 16:20-17:50)

Note Preparation and review of two hours each are required for understanding of every class with two hours and taking the credits.