

DIKTAT KULIAH
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SISTEM PENGHANTARAN OBAT
(NANOPARTIKEL, LIPOSOM, DAN DRUG TARGETTING)
SEMESTER VI



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KATA PENGANTAR

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Penulis

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Beberapa terapi bertarget telah disetujui oleh FDA untuk pengobatan kanker, dan jumlah itu kemungkinan akan meningkat karena penelitian terus berlangsung. Alemtuzumab (Campath®), Anastrozole (Arimidex®), Bevacizumab (Avastin®), Bortezomib (Velcade®), Cetuximab (Erbix®), Dasatinib (Sprycel®), Erlotinib Hydrochloride (Tarceva®), Exemestane (Aromasin®), Fulvestrant (Faslodex®), Gefitinib (Iressa®), Gemtuzumab Ozogamicin (Mylotarg®), Ibritumomab Tiuxetan (Zevalin®), Imatinib Mesylate (Gleevec®), Lapatinib Ditosylate (Tykerb®), Letrozole (Femara®), Nilotinib (Tasigna®), Panitumumab (Vectibix®), Rituximab (Rituxan®), Sorafenib Tosylate (Nexavar®), Sunitinib Malate (Sutent®), Tamoxifen, Temsirolimus (Torisel®), Toremifene (Fareston®), Tositumomab dan 131I-tositumomab (Bexxar®), Trastuzumab (Herceptin®) disetujui oleh FDA untuk indikasi kanker tertentu. Obat ini terus dipelajari dalam uji klinis untuk berbagai jenis kanker (National Cancer Institute, 2012).

KESIMPULAN

Sistem penghantaran tertarget sangat penting untuk meningkatkan efisiensi pengobatan dan mengurangi efek samping. Banyak peneliti mengembangkan metode untuk menghantarkan obat agar selektif pada sel yang sakit saja dan tidak berdampak negative pada sel sehat. Sistem penghantaran tertarget baik pasif maupun aktif dikembangkan untuk mencapai maksud tersebut. Desain pembawa dengan sifat fisikakimia tertentu yang memungkinkan akumulasi obat pada sel atau organ target dibuat pada sistem penghantaran pasif, sedangkan konjugasi dengan molekul pentarget seperti antibodi dan vitamin dibuat agar obat dapat terlokalisasi pada organ atau sel spesifik berdasarkan spesifisitas ikatan antara reseptor dan ligan. Banyak produk yang telah lulus uji klinik serta masih banyak lagi yang baru memasuki tahap “clinical trial”. Sistem ini tidak hanya menguntungkan untuk terapi kanker dan tumor, namun juga untuk penyakit Alzheimer, cystic fibrosis, hepatitis, serta penyakit-penyakit di organ-organ ginjal, paru-paru serta kolon.

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