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糖鎖科学全書 全4巻



COMPREHENSIVE GLYCOSCIENCE

From Chemistry to System Biology
In 4-Volume Set

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第3の生命の鎖をもつ糖鎖を研究する糖鎖科学(グライコサイエンス)には大別して、糖鎖生物学と糖鎖化学がある。とくにこの数年、発生、再生、増殖、分化、シグナル伝達などの細胞生物学の現象のみならず、がん、神経筋肉疾患、感染症、免疫疾患、生活習慣病などにも糖鎖が直接その発症に関わることが次々と明らかになり、大変注目される領域になってきた。また応用面でも、タンパク性医薬品やインフルエンザの治療薬、糖鎖ワクチンの開発、抗体医薬、がんのバイオマーカーの開発などで糖鎖の重要性が認識されてきた。そのため、糖鎖科学以外の領域の大学や研究機関の研究者、企業の研究者、さらには学生などにとっても、必然的にこの領域の研究を避けては通れなくなってきたといえよう。

一方これまでの糖鎖研究は、糖鎖の持つ多様性や複雑性からどちらかという研究者から敬遠されてきた嫌いがある。しかし、糖鎖の化学合成技術の進展、糖鎖遺伝子のクローニングとそれを利用した遺伝子改変動物などを用いた糖鎖の機能解析の進歩、また高速液体クロマトグラフィーや質量分析法を中心とした糖鎖の構造解析技術の進歩などにより、糖鎖の機能が明確になり、糖鎖科学の研究人口も増加しつつある。また、糖鎖科学は従来の領域から、ケミカルバイオロジーなどの他領域との融合や、さらにシステム生物学への発展が必須となってきている。本書はこのような糖鎖科学を取り巻く現状を把握し、世界の糖鎖生物学、糖鎖化学の多くの第一線の研究者により執筆されたもので、糖鎖科学のほぼすべての領域を網羅している。基礎研究のみならず糖鎖の応用研究にとっても、また糖鎖科学以外の研究にとっても座右の書として活用されるであろう。

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COMPREHENSIVE GLYCOSCIENCE



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