

【成大醫分館醫學新知與延伸閱讀】

2020 Winners of the Nobel Prize for Physiology or Medicine.

美國科學家 Harvey J. Alter

英國科學家 Michael Houghton

美國科學家 Charles M. Rice

2020 年 10 月諾貝爾揭曉了今年度的醫學獎得主，醫分館特別整理三位學者發現了細胞如何證實 C 型肝炎病毒的存在，並協助診斷及抗病毒治療開發的相關研究，讓讀者能夠更加貼近三位諾貝爾獎得主的研究。

[新聞閱讀]

[2020 諾貝爾生醫獎出爐，發現 C 肝病毒三學者獲獎【科技新報 2019/10/5】全文瀏覽](#)

2020 諾貝爾生醫獎在 10 月 5 日揭曉，由病毒學家 Harvey J Alter、Michael Houghton 和 Charles M. Rice 獲得殊榮，三人發現並證實 C 型肝炎病毒的存在，協助後續診斷及抗病毒治療開發。

輸血是感染肝炎的途徑之一，然而過去很長一段時間裡，科學家都無法確認導致大多數輸血後肝炎病例的病毒，因此只能將其暫稱為「非 A 非 B 肝炎」(NANBH)。

直到 1988 年，三人在非 A 非 B 肝炎樣本中成功辨認出 C 肝病毒的存在，世人才首次認識到 C 型肝炎及相關致病機制，這項發現也引導出後續 C 肝診斷及抗病毒療法的出現。

和 B 型肝炎相同，C 型肝炎也是造成肝臟長期發炎的主要原因，在未接受治療下，可能演化成肝硬化或癌症，導致患者必須考慮肝臟移植。

諾貝爾委員會表示，全球每年約有 7,000 萬人確診 C 型肝炎、40 萬人因此死亡，Alter、Houghton 和 Rice 三人為對抗血源性肝炎做出了關鍵性貢獻，協助人們更好應對全球性健康問題。

倫敦帝國理工學院 (Imperial College London) 臨床血脂學名譽教授 Gilbert Thompson 表示，在他看來，三人獲獎是早就應該發生的事。

「可以說 C 肝造成的死亡人數與現在大流行疫情相當，甚至更多。C 肝一直是個大問題，而這項研究讓人們在醫療應對上往前邁進一大步。」

[Alter_C 型肝炎有關之研究] 依被引用次數由多至少排序 - 精選 10 篇

(引用次數來源: Web of Science Core Collection , 檢索時間: 2020/10/29)

1. **Article:** AN ASSAY FOR CIRCULATING ANTIBODIES TO A MAJOR ETIOLOGIC VIRUS OF HUMAN NON-A, NON-B-HEPATITIS.
Source: SCIENCE. 1989 APR 21;244(4902):362-364.
Full text: [全文瀏覽](#)
2. **Article:** DETECTION OF ANTIBODY TO HEPATITIS-C VIRUS IN PROSPECTIVELY FOLLOWED TRANSFUSION RECIPIENTS WITH ACUTE AND CHRONIC NON-A-HEPATITIS, NON-B-HEPATITIS.
Source: NEW ENGLAND JOURNAL OF MEDICINE. 1989 NOV 30;321(22): 1494-1500.
Full text: [全文瀏覽](#)
3. **Article:** Molecular cloning and disease association of hepatitis G virus: A transfusion-transmissible agent.
Source: SCIENCE. 1996 JAN 26;271(5248):505-508.
Full text: [全文瀏覽](#)
4. **Article:** A NEW ANTIGEN IN LEUKEMIA SERA.
Source: JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. 1965;191(7):541.
Full text: [全文瀏覽](#)
5. **Article:** INTERRELATIONSHIP OF BLOOD-TRANSFUSION, NON-A, NON-B HEPATITIS AND HEPATOCELLULAR-CARCINOMA - ANALYSIS BY DETECTION OF ANTIBODY TO HEPATITIS-C VIRUS.
Source: HEPATOLOGY. 1990 OCT;12(4):671-675.
6. **Article:** A PROPOSED SYSTEM FOR THE NOMENCLATURE OF HEPATITIS-C VIRAL GENOTYPES.
Source: HEPATOLOGY. 1994;19(5): 1321-1324.
7. **Article:** The outcome of acute hepatitis C predicted by the evolution of the viral quasispecies.
Source: SCIENCE. 2000; APR 14;288(5464):339-344.
Full text: [全文瀏覽](#)
8. **Article:** LONG-TERM MORTALITY AFTER TRANSFUSION-ASSOCIATED

NON-A-HEPATITIS, NON-B-HEPATITIS.

Source: NEW ENGLAND JOURNAL OF MEDICINE. 1992 DEC 31;327(27):1906-1911.

Full text: [全文瀏覽](#)

9. **Article:** LACK OF PROTECTIVE IMMUNITY AGAINST REINFECTION WITH HEPATITIS-C VIRUS.

Source: SCIENCE. 1992 OCT;258(5079):135-140.

Full text: [全文瀏覽](#)

10. **Article:** Recovery, persistence, and sequelae in hepatitis C virus infection: A perspective on long-term outcome.

Source: SEMINARS IN LIVER DISEASE. 2000;20(1):17-35.

Full text: [全文瀏覽](#)

[Houghton_C 型肝炎有關之研究] 依被引用次數由多至少排序 - 精選 10 篇

(引用次數來源: Web of Science Core Collection , 檢索時間: 2020/10/29)

1. **Article:** MOLECULAR-BIOLOGY OF THE HEPATITIS-C VIRUSES - IMPLICATIONS FOR DIAGNOSIS, DEVELOPMENT AND CONTROL OF VIRAL DISEASE.

Source: HEPATOLOGY. 1991 AUG;14(2):381-388.

2. **Article:** Analysis of a successful immune response against hepatitis C virus.

Source: IMMUNITY. 1999 APR;10(4):439-449.

Full text: [全文瀏覽](#)

3. **Article:** PREVALENCE OF ANTIBODIES TO HEPATITIS-C VIRUS IN ITALIAN PATIENTS WITH HEPATOCELLULAR-CARCINOMA.

Source: LANCET. 1989 OCT;2(8670):1006-1008.

Full text: [全文瀏覽](#)

4. **Article:** Different clinical behaviors of acute hepatitis C virus infection are associated with different vigor of the anti-viral cell-mediated immune response.

Source: JOURNAL OF CLINICAL INVESTIGATION. 1996 AUG;98(3):706-714.

Full text: [全文瀏覽](#)

5. **Article:** VARIABLE AND HYPERVARIABLE DOMAINS ARE FOUND IN THE REGIONS OF HCV CORRESPONDING TO THE FLAVIVIRUS ENVELOPE AND NS1 PROTEINS AND THE PESTIVIRUS ENVELOPE GLYCOPROTEINS.

Source: VIROLOGY. 1991 FEB;180(2):842-848.

Full text: [全文瀏覽](#)

6. **Article:** STRUCTURE, SEQUENCE AND EXPRESSION OF THE HEPATITIS DELTA (DELTA) VIRAL GENOME.

Source: NATURE. 1986 OCT;323(6088):508-514.

Full text: [全文瀏覽](#)

7. **Article:** INTRAHEPATIC CYTOTOXIC LYMPHOCYTES-T SPECIFIC FOR HEPATITIS-C VIRUS IN PERSONS WITH CHRONIC HEPATITIS.

Source: JOURNAL OF IMMUNOLOGY. 1992 NOV;149(10):3339-3344.

Full text: [全文瀏覽](#)

8. **Article:** Memory CD8(+) T cells are required for protection from persistent hepatitis C virus infection.

Source: JOURNAL OF EXPERIMENTAL MEDICINE. 2003 JUN 16;197(12):1645-1655.

Full text: [全文瀏覽](#)

9. **Article:** The outcome of hepatitis C virus infection is predicted by escape mutations in epitopes targeted by cytotoxic T lymphocytes.

Source: IMMUNITY. 2001 DEC;15(6):883-895.

Full text: [全文瀏覽](#)

10. **Article:** LYMPHOCYTE-T RESPONSE TO HEPATITIS-C VIRUS IN DIFFERENT CLINICAL COURSES OF INFECTION.

Source: GASTROENTEROLOGY. 1993 FEB;104(2):580-587.

[Rice_C 型肝炎有關之研究] 依被引用次數由多至少排序 - 精選 10 篇

(引用次數來源: **Web of Science Core Collection** , 檢索時間: **2019/10/14**)

1. **Article:** Complete replication of hepatitis C virus in cell culture.

Source: SCIENCE. 2005 JUL;309(5734):623-626.

Full text: [全文瀏覽](#)

2. **Article:** FLAVIVIRUS GENOME ORGANIZATION, EXPRESSION, AND REPLICATION.

Source: ANNUAL REVIEW OF MICROBIOLOGY. 1990;44:649-688.

Full text: [全文瀏覽](#)

3. **Article:** A diverse range of gene products are effectors of the type I interferon antiviral response.
Source: NATURE. 2011 APR 28;472(7344):481-U545.
Full text: [全文瀏覽](#)
4. **Article:** Efficient initiation of HCV RNA replication in cell culture.
Source: SCIENCE. 2000 DEC;290(5498):1972-1974.
Full text: [全文瀏覽](#)
5. **Article:** Interferon-Stimulated Genes: A Complex Web of Host Defenses.
Source: ANNUAL REVIEW OF IMMUNOLOGY. 2014;32:513-545.
Full text: [全文瀏覽](#)
6. **Article:** Replication of hepatitis C virus.
Source: NATURE REVIEWS MICROBIOLOGY. 2007 JUN;5(6):453-463.
Full text: [全文瀏覽](#)
7. **Article:** Suppression of inflammation by a synthetic histone mimic.
Source: NATURE. 2010 DEC;468(7327):1119-1123.
Full text: [全文瀏覽](#)
8. **Article:** Claudin-1 is a hepatitis C virus co-receptor required for a late step in entry.
Source: NATURE. 2007 APR;446(7137):801-805.
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9. **Article:** Identification of microRNAs of the herpesvirus family.
Source: NATURE METHODS. 2005 APR;2(4):269-276.
Full text: [全文瀏覽](#)
10. **Article:** Highly permissive cell lines for subgenomic and genomic hepatitis C virus RNA replication.
Source: JOURNAL OF VIROLOGY. 2002 DEC;76(24):13001-13014.
Full text: [全文瀏覽](#)

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