



State of Wisconsin
2019 - 2020 LEGISLATURE

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2019 SENATE JOINT RESOLUTION 77

November 22, 2019 - Introduced by Senators RISSER and OLSEN, cosponsored by Representatives ALLEN, TAUCHEN, MAGNAFICI, ANDERSON, SINICKI, STEFFEN, SPREITZER, SUBECK, TUSLER and C. TAYLOR. Referred to Committee on Senate Organization.

1 **Relating to:** declaring December 10, 2019, as Howard Temin Day in Wisconsin.

2 Whereas, Howard Martin Temin was born on December 10, 1934, in
3 Philadelphia, Pennsylvania, the son of Annette Lehman and Henry Temin; and

4 Whereas, Howard published his first scientific paper at the age of 18 before
5 graduating from Swarthmore College in 1955, and he began his research as a
6 graduate student in the laboratory of Professor Renato Dulbecco at the California
7 Institute of Technology, where he studied animal virology and authored his doctoral
8 thesis on the Rous sarcoma virus (RSV); and

9 Whereas, after earning his Ph.D. in 1959, Howard developed the theory that
10 RSV and other retroviruses could enter a cell and make DNA copies of themselves
11 before integrating into the host genome; and

12 Whereas, in 1960, Howard accepted an assistant professorship in the McArdle
13 Laboratory for Cancer Research at UW-Madison; and

1 Whereas, in 1964, Howard proposed that RSV could translate its RNA into
2 DNA, redirecting the reproductive activity of a cell and causing it to reproduce the
3 translated DNA along with its own DNA, producing more cancer cells; and

4 Whereas, Howard's theory that a virus can infect and transform cells was
5 initially met with skepticism because it ran contrary to the "central dogma" of
6 molecular biology proposed by Francis Crick, which held that DNA was effectively
7 immune from manipulation; and

8 Whereas, Howard's key discovery came in 1970, when he found that certain
9 tumor viruses, now known as retroviruses, carry the enzymatic ability to reverse the
10 flow of information from RNA back to DNA in a process known as reverse
11 transcriptase; and

12 Whereas, in 1975, Howard, his former professor Renato Dulbecco, and David
13 Baltimore won the Nobel Prize in Physiology or Medicine for their "discoveries
14 concerning the interaction between tumor viruses and the genetic material of the
15 cell," now recognized as one of the most important discoveries in modern medicine;
16 and

17 Whereas, the discovery of reverse transcriptase led to the rapid development
18 of tests for a human retrovirus and a class of drugs to combat the HIV/AIDS
19 epidemic, saving an untold number of lives; and

20 Whereas, in the 1970s, Howard delivered a number of lectures in the Soviet
21 Union and aided "refuseniks"—researchers who were targeted by the KGB and
22 refused permission to emigrate from the Soviet Union—by providing them with gifts
23 that could be resold to help support their families and giving them reprints of
24 scientific journals because their access had been restricted by the Soviet
25 government; and

