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Novartis MeNZB™ vaccine campaign data show 80 percent efficacy rate during epidemic meningococcal B disease outbreak in New Zealand

- *Meningococcal B disease rates are five times higher in children who have not been immunized than in those who have received MeNZB*
- *Partnership with New Zealand Ministry of Health and Norwegian Institute of Public Health supported rapid vaccine development to combat epidemic*
- *MeNZB data should contribute to broader understanding and development of additional meningococcal disease vaccines and programs*
- *Novartis advances meningococcal vaccines development with programs for multivalent (ACWY) vaccine and broad coverage meningococcal B vaccine*

Basel, August 8, 2006 – Novartis announced today the successful conclusion of a two-year nationwide mass vaccination campaign in New Zealand based on the company's MeNZB™ vaccine, which was developed specifically for the effort.

Working closely with the New Zealand Ministry of Health and drawing upon earlier work at the Norwegian Institute of Public Health, Novartis scientists developed and manufactured the MeNZB vaccine to combat an epidemic caused by a specific strain of meningococcal B disease that gripped New Zealand for more than a decade.

Data from the campaign showed that MeNZB has an 80 percent efficacy rate in preventing cases of meningococcal B disease. Before the epidemic began in 1991, New Zealand saw an average of 50 cases of meningococcal disease from all meningococcus strains each year. During the epidemic, that number grew to approximately 400 cases each year, with 80 of every 100 cases caused by the epidemic strain.

Over the course of the epidemic, meningococcal disease has struck more than 5,900 New Zealanders, killing 239 and leaving more than 1,000 permanently disabled. A staggered roll-out of the vaccine targeted highest-risk populations first, such as indigenous Maori and Pacific communities in the country's northern region, and reduced cases of the epidemic strain in these groups by 90 percent and 70 percent, respectively, over the campaign.

"Outstanding cooperation and dedication from both the New Zealand government and the Novartis team enabled us to start making a difference for threatened populations quickly," said Rino Rappuoli, Global Head of research for Novartis Vaccines. "Our commitment is to stop the

morbidity and mortality numbers from increasing, in New Zealand and in other regions, by developing vaccines that will eradicate all forms of meningococcal disease.”

Experts on meningococcal disease met in late July 2006 to discuss the results of the campaign and concluded that the MeNZB vaccine had been effective. The group included prominent independent scientists and clinicians from several countries as well as leaders from the New Zealand Ministry of Health and Novartis. This peer review followed rigorous examination by an independent safety monitoring board during the campaign itself.

“Novartis Vaccines developed and manufactured a life-saving vaccine on an accelerated timetable to support a New Zealand government initiative in controlling a devastating epidemic,” said Jane O’Hallahan, director of the New Zealand Ministry of Health Meningococcal B Immunisation Programme.

The MeNZB campaign ran from July 2004 through June 2006 following clinical studies and manufacturing scale-up that were completed in approximately three years. The three-dose vaccination campaign reached approximately one million people, from infants to age 20. An estimated 87 percent of those in the target population have started their doses, while 80 percent have completed all three doses. Vaccination of the under age five population will continue until 2009 or until disease rates warrant concluding immunization activities. Children who are not immunized now have a five times higher risk of contracting the disease than those who have received MeNZB.

“The benefits of this effective public-private partnership are immediately visible. We are seeing that children who are fully immunized have a good level of protection, while those who are not remain at higher risk of contracting meningococcal disease,” said Diana Martin of the New Zealand Institute of Environmental Science and Research, which partnered with the New Zealand Ministry of Health, Auckland University and Novartis Vaccines (formerly Chiron) on the MeNZB campaign.

Rappuoli added: “We are pleased with being able to bring this expertise to New Zealand. Looking forward, we are hopeful that our genome-derived vaccine for multiple strains of meningococcus B, which represents the first successful application of genomic information in vaccines development, will bring much wider protection worldwide.”

Novartis scientists recently published data from preclinical studies of a universal group B vaccine candidate in the *Proceedings of the National Academy of Sciences* (Inaugural Article: A universal vaccine for serogroup B meningococcus, Giuliani 2006 PNAS 103:10834), which showed protection against 78-95 percent of group B strains tested, depending on the adjuvant used in combination.

It had previously been difficult to develop vaccines that offered broad protection against meningitis B, which accounts for a large portion of meningococcal disease cases in developed countries. Standard vaccine development approaches for meningitis B led to the development of a capsular polysaccharide identical to one present in the human brain, thus disabling the desired preventive effect of a vaccine. Novartis scientists used their “reverse vaccinology” technique to discover potential antigens for development, and recently completed Phase 1 clinical studies for a candidate vaccine for meningitis B.

To address the other four primary serogroups causing most other meningococcal disease, Novartis is also developing a multivalent ACWY vaccine candidate, which is currently in Phase III clinical studies.

About meningococcal disease

Meningococcal disease results from infection caused by the bacterium *Neisseria meningitidis*, known as meningococcus. Meningococcal disease usually affects the membranes around the brain and spinal cord or the bloodstream, causing meningitis or septicemia, respectively. The disease is fairly rare, with annual worldwide incidence of about 1.2 million cases, almost all due to five primary serogroups: A, B, C, W-135 and Y. However, infection progresses rapidly and may be fatal even if diagnosed properly, making prevention essential. Cases may also result in brain damage, blindness, deafness or limb amputations.

About Novartis' meningococcal disease vaccines

Novartis Vaccines' current products to prevent meningococcal disease include Menjugate[®] meningococcal C conjugate vaccine, which played a key role in reducing the toll of meningococcal C disease in the United Kingdom in the past decade, and MeNZB[™] meningoccal B vaccine, developed specifically for the specific B strain that caused an epidemic in New Zealand. Novartis Vaccines development programs target disease caused by the five primary serogroups of meningococcus with a multivalent ACWY meningococcal vaccine candidate and a broad coverage recombinant meningococcal B vaccine candidate.

Disclaimer

This release contains certain forward-looking statements, relating to Novartis' business, which can be identified by the use of forward-looking terminology such as "should contribute," "commitment," "will," "looking forward," "hopeful," "developing," or similar expressions, or by express or implied discussions regarding potential marketing approvals or future sales of existing or potential future vaccine products. Such statements reflect current views with respect to future events and are subject to certain risks, uncertainties and assumptions. There can be no guarantee that vaccine candidates will be approved for any indications in any market or that any existing or potential future vaccine products will reach any particular sales levels. In particular, management's expectations could be affected by, among other things, unexpected clinical trial results, including additional analysis of clinical data, or new clinical data; unexpected regulatory actions or delays or government regulation generally; Novartis' ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; increased government, industry, and general public pricing pressures; and other risks and factors referred to in Novartis AG's current Form 20-F on file with the U.S. Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those anticipated, believed, estimated or expected. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Novartis

Novartis Vaccines & Diagnostics is a new division of Novartis focused on the development of preventive treatments and tools, formed through the acquisition of Chiron Corporation. The division has two businesses: Novartis Vaccines and Chiron, the blood testing and molecular diagnostics unit. Novartis Vaccines is the world's fifth -largest vaccines manufacturer and second-largest supplier of flu vaccines in the US. Key products also include meningococcal, pediatric and travel vaccines. The Chiron business is dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply.

Novartis AG (NYSE: NVS) is a world leader in offering medicines to protect health, treat disease and improve well-being. Our goal is to discover, develop and successfully market innovative products to treat patients, ease suffering and enhance the quality of life. Novartis is the only company with leadership positions in both patented and generic pharmaceuticals. We are

strengthening our medicine-based portfolio, which is focused on strategic growth platforms in innovation-driven pharmaceuticals, high-quality and low-cost generics, human vaccines and leading self-medication OTC brands. In 2005, the Group's businesses achieved net sales of USD 32.2 billion and net income of USD 6.1 billion. Approximately USD 4.8 billion was invested in R&D. Headquartered in Basel, Switzerland, Novartis Group companies employ approximately 97,000 people and operate in over 140 countries around the world. For more information, please visit <http://www.novartis.com>.

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