

## » On-Conversation with Dietmar Berger, Global Development Leader for Nplate™ [romiplostim; Amgen]— The First and Only FDA Approved Platelet Producer for Adult Patients with Chronic ITP



**Dietmar Berger,**  
MD, PhD

Berger, MD, PhD, Executive Medical Director Hematology/Oncology, Nplate's lead developer, and he enlightened us on Amgen's newest milestone.

Last month, Amgen scored big with the first and only FDA-approved platelet producer, Nplate, for the treatment of thrombocytopenia in splenectomized and non-splenectomized adult patients with chronic immune thrombocytopenic purpura (ITP) who have had an insufficient response to corticosteroids, immunoglobulins, or splenectomy. Nplate, a peptibody protein, was developed by Amgen scientists who are actively employing Amgen's strategy of pursuing a multi-modality approach to different diseases. We had a conversation with Dietmar

Berger, MD, PhD, Executive Medical Director Hematology/Oncology, Nplate's lead developer, and he enlightened us on Amgen's newest milestone.

**OBR:** *So is this considered a growth factor drug?*

**DB:** Although Nplate is working via a growth factor receptor, the peptides are not derived from the endogenous growth factor. This is important because of the potential for side effects and antibody development. If a patient develops antibodies he/she will only develop antibodies to the drug and not to the endogenous growth factor.

**OBR:** *How did the approval process go?*

**DB:** The FDA approval was based on results from two Phase 3 studies in which the overall response rate for splenectomized and non-splenectomized adult patients with ITP (n=62 and 63, respectively) was 83%. In the 6 month studies, platelet counts were raised and sustained in this patient population. Additionally, patients were able to reduce or discontinue their use of concomitant ITP medications and emergency drugs. In the trials, we saw a significant increase in platelet counts and a significant decrease in bleeding. The follow-on extension study (n>140) has patients who have maintained response for out to 4 years.

**OBR:** *How is the drug available?*

**DB:** The drug became available the very next business day after the FDA approval, and it can be obtained through the "Network of EXperts Understanding and Supporting Nplate and Patients" (NEXUS) Program. This program is part of the Risk Evaluation and Mitigation Strategy (REMS) and was developed by Amgen, in partnership with the FDA, to assure safe use of Nplate while minimizing risk. Both patients and physicians need to register with the NEXUS program and every patient registered is tracked for safety. We also have information available about the program by calling 1-877-NPLATE1 or 1-877-675-2831, or you can visit the Web site: [www.nplate.com](http://www.nplate.com).

**OBR:** *How is it administered and what does it cost?*

**DB:** The drug is administered subcutaneously by a local physician, hem/onc, or at home by a nurse. The cost is \$4600/month (4 injections: one per week) and is comparable with other ITP treatments. Eligible patients who are uninsured, underinsured, or unable to afford their insurance co-payments can apply for assistance from Amgen.

**OBR:** *Is Amgen conducting other studies with peptibodies?*

**DB:** We are currently conducting a Phase 1 trial for Nplate safety and efficacy in children with ITP. And, we are using the peptibody technology in a number of other areas as well including a novel peptibody, AMG 386 that is directed at the angiopoietin pathway in certain solid tumors. **OBR**

**OBR:** *First off, we'd like to congratulate you on your latest FDA approval. As this is the first peptibody protein to get an FDA approval, this is a very exciting time for Amgen. How did you choose ITP to focus on?*

**DB:** In the US, approximately 60,000 adults have the disease. Prior to our FDA approval, patients with chronic ITP have had limited available treatment options. Many of the therapies are often unsuitable for long-term use due to limited efficacy, side effects and tolerability issues. We recognized this unmet need and began our R&D into platelet biology about 15 years ago. We received FDA approval on Nplate in August for adults with chronic ITP, a debilitating disease with an impact on the risk of bleeding as well as quality of life. Patients with chronic ITP and low platelet counts tend to change their daily activities, and they can't go bike riding, climbing, etc. In adults, the majority of ITP cases are chronic, where in children, 75% of cases are acute and self-limiting. However, there is still an unmet need in children under the age of 17 with chronic ITP.

**OBR:** *Can you elaborate a bit on how Nplate works?*

**DB:** Nplate is designed to increase platelet production and is the first drug to be able to do this. It is a complete departure from what was previously being used. It works by increasing and sustaining platelet counts; however it should not be used to normalize blood counts. Nplate is a fusion protein with attributes of both peptides and antibodies, but it is distinct from each. The 'peptibodies' as we call them, bind to a specific structure on the surface of platelet-producing cells and allow those cells to develop further, and thus, turn out platelets. The peptibody is an engineered protein and by binding to the TPO receptor, it stimulates platelet production. Furthermore, the Fc domain increases the half-life of the peptibody protein in the blood stream.