

PRESS RELEASE



Phase IIa Results for Spiegelmer[®] Olaptosed Pegol (NOX-A12) in MM and CLL at 2014 American Society of Hematology (ASH) Conference

Berlin, Germany and Boston, USA, Germany - 05 December 2014 - NOXXON Pharma will disclose promising data from two independent clinical Phase IIa studies of the anti-CXCL12/SDF-1 Spiegelmer[®] olaptosed pegol (NOX-A12) and show preclinical data supporting broad use of olaptosed pegol in combination with anti-cancer therapeutic antibodies at the 56th annual meeting of the American Society of Hematology (ASH) in San Francisco, CA from 06-09 December 2014.

In the first study, olaptosed pegol was administered with bortezomib and dexamethasone (VD) in patients with relapsed multiple myeloma (MM). In the second study, relapsed chronic lymphocytic leukemia (CLL) patients were treated with olaptosed pegol combined with bendamustine and rituximab (BR). Data from all 28 patients in each study will be presented.

In both studies, anti-CXCL12/SDF-1 Spiegelmer[®] olaptosed was able to mobilize cancer cells from protective niches in the body. This mobilization reflects olaptosed pegol's ability to block tumor-microenvironment interactions and to modify the bone marrow environment to make it less receptive for malignant cells.

In patients with relapsed MM, an overall response rate (ORR) of 68% including 18% very good partial responses (vgPR) and 7% complete responses (CR) was achieved in the 28 patients. Importantly, treatment with olaptosed pegol was not associated with additional toxicity on top of VD. Notably, the response rate was essentially the same in patients with high-risk cytogenetics and patients not bearing the high-risk mutations/translocations.

In relapsed CLL patients, 82% overall response rate (ORR) and 14% complete response (CR) rate was observed which compares very favorably with historical controls receiving the underlying BR therapy. Further, all high-risk patients¹ responded with a partial response (PR) or complete response (CR).

Preclinical work showed that in contrast to tested inhibitors of BTK (ibrutinib) and PI3K δ (idelalisib), olaptosed does not inhibit antibody mediated cellular cytotoxicity or phagocytosis of rituximab. Furthermore, it not only mobilizes malignant cells, but also increases the number of circulating immune effector cells.² Olaptosed pegol could thus be a partner of choice for anti-cancer monoclonal antibodies.

¹ As defined by Stilgenbauer and Zenz (2010)

² Vater A. *et al.* (2013), *Clinical Pharmacology & Therapeutics*

The titles and contributors for the three above mentioned poster presentations at ASH are as follows:

- Saturday, December 06, 2014, 5:30 PM-7:30 PM, West Building, Level 1 (Moscone Center), Session 653, Publication number: 2111
Final Results from the Phase IIa Study of the Anti-CXCL12 Spiegelmer[®] Olaptosed Pegol (NOX-A12) in Combination with Bortezomib and Dexamethasone in Patients with Multiple Myeloma
Heinz Ludwig, Katja Weisel, Maria Teresa Petrucci, Xavier Leleu, Anna Maria Cafro, Laurent Garderet, Niklas Zojer, Robin Foa, Richard Greil, Ibrahim Yakoub-Agha, Anna Kruschinski, Thomas Dümmler, Kai Riecke, and Monika Engelhardt
- Saturday, December 06, 2014, 5:30 PM-7:30 PM, West Building, Level 1 (Moscone Center); Session 642, Publication number: 1996
Results from a Phase IIa Study of the Anti-CXCL12 Spiegelmer[®] Olaptosed Pegol (NOX-A12) in Combination with Bendamustine/Rituximab in Patients with Chronic Lymphocytic Leukemia
Michael Steurer, Marco Montillo, Lydia Scarfò, Francesca Romana Mauro, Johannes Andel, Sophie Wildner, Livio Trentin, Ann Janssens, Sonja Burgstaller, Anna Kruschinski, Thomas Dümmler, Kai Riecke, Paolo Ghia, Federico Caligaris-Cappio and Marco Gobbi
- Monday, December 08, 2014, 6:00 PM-8:00 PM, West Building, Level 1 (Moscone Center), Session 625, Publication number: 4499
Comparison of Ibrutinib, Idelalisib and Olaptosed Pegol on the Immune Effector Function Mediated by Rituximab
Dirk Zboralski, Axel Vater and Anna Kruschinski

Members of NOXXON's drug development team and clinical investigators will be at the ASH conference to explain the mode of action and clinical potential of this innovative drug candidate.

- Ends -

Notes for editors:

About NOXXON Pharma

NOXXON Pharma is a biopharmaceutical company pioneering the development of a new class of proprietary therapeutics called Spiegelmers. Spiegelmers are chemically synthesized L-stereoisomer oligonucleotide aptamers, a non-immunogenic alternative to antibodies. NOXXON has a diversified portfolio of clinical-stage Spiegelmer[®] therapeutics:

- Lexaptetid pegol (NOX-H94), an anti-hepcidin Spiegelmer[®], has completed a Phase IIa pilot study in cancer patients with anemia and is now being studied in EPO-hyporesponsive dialysis patients. Heparin is the key regulator of iron metabolism and responsible for the iron restriction leading to anemia of chronic disease.
- Olaptosed pegol (NOX-A12), an anti-CXCL12/SDF-1 (CXC chemokine ligand 12 / Stromal Cell-Derived Factor-1) Spiegelmer[®], has completed Phase IIa studies in two hematological cancers, multiple myeloma (MM) and chronic lymphocytic leukemia (CLL). Studies for treatment of glioblastoma have also been designed and olaptosed pegol has received Orphan Drug Designation from the FDA and

EMA for this indication. CXCL12 is a chemokine known to be involved in tumor invasion, metastasis and resistance to therapy.

- Emapticap pegol (NOX-E36), an anti-CCL2/MCP-1 (C-C chemokine ligand 2 / Monocyte Chemoattractant Protein-1) Spiegelmer[®], has completed a Phase IIa proof-of-concept study in patients with type 2 diabetes with albuminuria and a Phase IIb study is in the planning stages. CCL2 is a pro-inflammatory chemokine involved in the recruitment of immune cells to inflamed tissues.

The Spiegelmer[®] platform provides the company with powerful and unique discovery capabilities, which have generated a number of additional leads under preclinical investigation. Located in Berlin, Germany, NOXXON is a well-financed mature biotech company with a strong syndicate of international investors, and approximately 55 employees.

For more information, please visit: www.noxxon.com

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