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To whom it may concern

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## **Pädiatrische Genetik**

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### **Call for bids: whole exome sequencing (WES) reagents**

For our gene identification project funded by INTERREG A27, we intend to use commercial kits for the construction of genomic DNA libraries and exon sequence enrichment from these DNA libraries. For this specific bid, we need to construct and sequence exome libraries from 96 patient samples. Methods may involve the following: a tiling exon oligonucleotide microarray is synthesized and used to create a pool of biotinylated nucleic acids or baits. The capture reagent baits may be RNA or DNA and may vary in length from 60 to 120 nt. Baits may be incubated with adapter-ligated DNA libraries in solution over 24-72 hours, allowing the hybridization of bait to target sequences. We are equipped to capture bait-target hybrids by streptavidin magnetic microbeads. A secondary LM-PCR is intended to generate sufficient DNA for sequencing.

Enriched libraries will be validated by Agilent BioAnalyzer for size distribution. We will perform a real-time SYBR Green PCR using 6 exon-intron pairs to compare equal masses of whole-genome and exon-captured libraries. An exon-capture experiment is considered successful if all six exons are enriched and all six introns are depleted; this proxy method allows detection of failed capture experiments before sequencing is initiated.

Samples are intended for sequencing on a SOLiD 5500xl platform. All reagents considered for this bid will have to be compatible with this instrument. WES library construction kits will also have to be compatible with next generation sequencing chemistry from Life technologies.

This bid is open for 14 days from the day of publishing, ending on May 5, 2015.

PD Dr. E. Lausch