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### 1. Description

**This product is for research use only.**

<b>Components</b>	100 mL StemMACS OsteoDiff Medium, human: with L-glutamine with fetal bovine serum (FBS) with phenol red without antibiotics
<b>Specifications</b>	pH: 7.4–7.8
<b>Quality control</b>	Functionality assay: Satisfactory osteogenic differentiation of MSCs as determined by detection of alkaline phosphatase activity.
<b>Storage</b>	Store protected from light at –20 °C. The expiration date is indicated on the label. If StemMACS MSC Expansion Medium is thawed upon arrival, immediately mix thoroughly, aliquot to the preferred sample volume, and store at –20 °C until use.

#### 1.1 Background information

The StemMACS OsteoDiff Medium, human is an optimized differentiation medium to generate osteoblasts from human MSCs. Most bone diseases result from an imbalance between bone formation and bone resorption. To understand the development and regulation of osteoblasts (osteogenesis) in normal and diseased conditions is important for research into the treatment or prevention of various diseases such as osteoporosis (local or systemic bone loss), developmental disorders such as non-union fractures, and bone inflammation in rheumatoid arthritis. StemMACS OsteoDiff Medium is suitable for the differentiation of expanded MSCs, or *in vitro* studies into the processes involved in MSC differentiation to osteoblasts, including gene expression or protein profiling.

#### 1.2 Applications

- Analysis or quality control of differentiation capacity of expanded MSCs.

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