

**Datasheet****PowerStem MSC1**

**Special medium without animal components (ADCF) for serum-free cultivation  
and proliferation of human mesenchymal stem cells (hMSC)**

Product	Description	Catalogue-No.	Size
PowerStem MSC1	Serum-free medium without animal components for cultivation and expansion of mesenchymal stem cells Kit (Basal Medium + 2 Supplements) for 500 ml	ST04-77355K	500 ml

**Product description**

PowerStem MSC1 is an easy to use serum-free medium without animal derived components (ADCF) for cultivation and proliferation of human mesenchymal stem cells (hMSC). PowerStem MSC1 is especially designed for the proliferation of human mesenchymal stem cells without differentiation. PowerStem MSC1 supports long-term growth of MSC and preserves their multi-lineage potential. In addition, MSC cultured in PowerStem MSC1 expand faster and show a significant reduction in hematopoietic cell contamination at early passages compared to serum-based media. To differentiate the proliferated MSCs into different cell types the relevant protocols and differentiation factors should be used.

The product is manufactured under the highest standards and quality is checked continuously and strictly. PowerStem MSC1 is made from selected raw materials of the highest quality. The medium contains salts, amino acids, trace elements, hormones, growth factors and enriched human proteins derived from human blood in an optimized formulation. Because of this human blood components precipitates may occur in rare cases despite the addition of heparin after prolonged storage. These precipitates consist in most cases of fibrin. Fibrin appears in medium as larger material (up to 1-2mm) that is visible to the naked eye. The precipitate is often mistaken for microbial contamination. The quality and suitability of the medium in cell culture is thereby in no way limited.

**Content**

PowerStem MSC1 medium consists of:

- PowerStem MSC1 basal medium (470 ml, Cat. No. ST04-77350C)
- PowerStem MSC1 growth supplement 1 (5 ml, Cat. No. ST04-77350S1) which is added at the time of use.
- PowerStem MSC1 growth supplement 2 (25 ml, Cat. No. ST04-77350S2) which is added at the time of use.

**Storage conditions and stability:**

- PowerStem MSC1 basal medium: store in the dark at 2-8° C
- 2 PowerStem MSC1 growth supplements: store in the dark at -20° C (will be shipped on dry ice, should be used immediately on arrival or may be refrozen for later use)

Both the PowerStem MSC1 basal medium and PowerStem MSC1 growth supplements are guaranteed stable for 12 months when properly stored. PowerStem MSC1 complete medium (basal + supplements) is stable for 1 month when stored in the dark at 2-8° C. We do not recommend using the supplemented complete medium beyond 1 month. Do not freeze complete PowerStem MSC1 medium.

**Composition**

03/2017

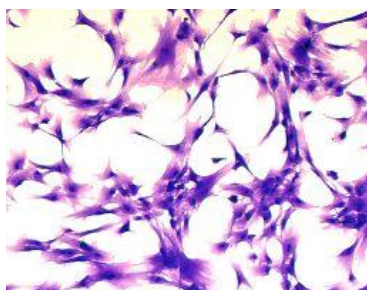
PowerStem MSC1 contains salts, amino acids, trace elements, hormones, growth factors, and enriched human proteins and lipids in an optimized formulation. PowerStem MSC1 is free of animal derived components (ADCF).

### Suitability

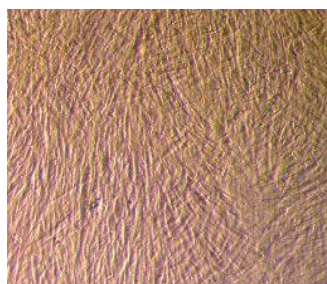
Serum-free cultivation of human mesenchymal stem cells (hMSC) while maintaining the undifferentiated state and multi-lineage potential. Please note: For research use only, not for therapeutic or diagnostic use.

### Special Advantages

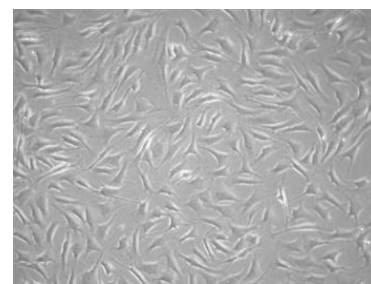
PowerStem MSC1 allows the cultivation of human mesenchymal stem cells under serum-free conditions. It is free of animal or human serum and thus enables constant and comparable experimental conditions resulting in highly reproducible data. PowerStem MSC1 is completely free of animal components (ADCF) and thus suitable for a research approach in regenerative medicine and tissue engineering. By adding specific differentiation factors, MSC can be differentiated in vitro to the desired cell types (bone, cartilage, adipose tissue etc.).



Sub-confluent hMSC in  
PowerStem MSC1

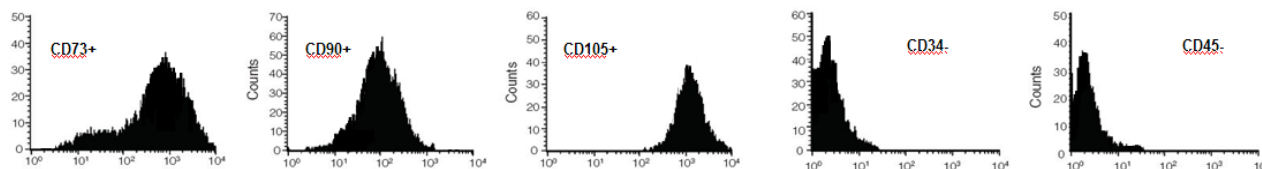


Confluent hMSC in  
PowerStem MSC1



hMSC in medium with 10% FBS

The culture-expanded cell population expresses CD90 (Thy-1), CD105 (SH2) and CD73 (SH3/SH4), but lacks expression of CD34 and CD45.



### Preparation of PowerStem MSC1 medium:

PowerStem MSC1 basal medium requires supplementation with PowerStem MSC1 growth supplements. Thaw PowerStem MSC1 growth supplements before use. The thawed growth supplements should be added to the basal medium immediately. PowerStem MSC1 complete medium (basal medium with growth supplements) is stable for 6 weeks when stored in the dark at 2-8° C.

### Technical support

For technical support, questions or remarks please contact your local PAN-Seratech partner or the technical department of PAN-Seratech via email ([info@pan-seratech.com](mailto:info@pan-seratech.com)) or phone +49-8543-601630.

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FOR RESEARCH USE ONLY! Not approved for human or animal diagnostic or therapeutic procedures.