**Product Data Sheet**

### Chemical Properties

**Product Name:** StemRegenin 1 (SR1)

**Cas No.:** 1227633-49-9

**M.Wt:** 429.54

**Formula:** C24H23N5OS

**Chemical Name:** 4-[2-[[2-(1-benzothiophen-3-yl)-9-propan-2-yl]purin-6-yl]amino]ethylphenol

**Canonical SMILES:** CC(C)N1C=NC2=C1N=C(N=C2NCCN3=CC=C(C=C3)O)C4=CSC5=CC=CC=C54

**Solubility:** ≥21.5mg/mL in DMSO

**Storage:** Store at -20°C

**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:** Evaluation sample solution: ship with blue ice

All other available size: ship with RT, or blue ice upon request

### Biological Activity

**Targets:** Others

**Pathways:** AhR

**Description:**

StemRegenin 1 (SR1), a purine derivative, is a potent small molecule inhibitor of aryl hydrocarbon receptor (AhR) that potently antagonizes AhR with a value of 50% inhibition concentration IC50 of 127 nM in CD34+ cells. SR1 has been found to promote the ex vivo expansion of CD34+ cells. Recent study results have suggested that culture of hematopoietic stem cells (HSC) with SR1
increases cells expressing CD34 by fifty-fold and increases cells retaining the ability to engraft immunodeficient mice by 17-fold. SR1 has also been found to induce the ex vivo differentiation of pDCs, BDCA1+ and BDCA3+ mDCs as well as the generation of high numbers of all these DC subsets.

Reference:

Protocol

Cell experiment:

Cell lines
CD34+UCB cells

Preparation method
The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions
1 μM, 3 weeks

Applications
CD34+UCB cells were cultured for 3 weeks with 1μM SR1 or 0.01% DMSO (control). Total cell number was determined at day 7, 14, and 21 and the frequency of pDCs was evaluated at each time point by flow cytometry. During the 3-weeks culture period the total nucleated cells continuously expanded. Analysis of pDC differentiation in time revealed that the maximum frequency of pDCs was already reached at day 14. However, the absolute number of pDCs was highest on day 21.

Reference:

Caution
Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.