V02

Tumor Xenograft Hydrogel Kit

Cat: O5270
Size: 5mL/10mL
Storage: Store at 4℃, valid for 1 year.

Product Introduction:

The tumor xenograft hydrogel kit is an extracellular matrix microenvironment constructed from biologically synthesized raw materials, suitable for tumorigenesis experiments in various mouse tumor models. The gel is designed without growth factors to avoid interference from growth factors in experiments and to reduce experimental errors. There is no gel residue in the tumor tissue, making tumor xenograft experiments more precise. It has the advantages of high activity, high stability, high biocompatibility and safety, room-temperature operation, easy injection, adjustable gel hardness, and no risk of zoonotic pathogens or endotoxins.

Product Composition:

Name	Specification	Storage
M Gel	5mL/10mL	4℃
H Buffer（1×）	5mL/10mL	4℃

Product Application: In vivo tumorigenesis experiments for various tumor models.
Applicable Cell Types: Tumor cell lines.

Subcutaneous tumor model (CDX)

Protocols (Taking MSC cells as an example)

I. Material Preparation Steps

1. 37℃ water bath/incubator
2. M Gel
3. H Buffer (1X)
4. DMEM basic culture medium
5. 23 G -26 G needles
6. 1 mL syringe
7. Tumor cell line

II. Reagent Preparation Steps

1. M Gel melting steps: Place M Gel in a 37℃ water bath/incubator for at least 10 minutes to ensure complete melting.

Note 1: Before use, place it in a 37℃ water bath/incubator to avoid the gel becoming viscous and solidifying due to temperature drop.

Note 2: M Gel can be repeatedly frozen and thawed, but it should be used within 6 months after opening.

2. H Buffer (0.25X) preparation steps: Preheat the DMEM basic culture medium to 37℃, take 1.25 mL of H Buffer (1X) and mix it thoroughly with 3.75 mL of the preheated DMEM basic culture medium.

Note 3: For preparing high-hardness gel, it is recommended to prepare H Buffer (0.5X) concentration. The higher the concentration of H Buffer, the higher the hardness of the prepared gel.

Note 4: The prepared H Buffer should be placed in a 37℃ water bath before use. If not used up, it can be stored in a 4℃ refrigerator for up to one week.

III. Gel Preparation Steps

1. Take an appropriate amount of tumor cell suspension, centrifuge to collect the cell pellet, and then mix it evenly with H Buffer (0.25X) to achieve a cell density of 4×10^6 cells/mL, resulting in a tumor cell mixture with H Buffer.

2. Mix M Gel with the tumor cell mixture containing H Buffer at a 1:1 ratio to achieve a cell density of 2×10^6 cells/mL.

3. Use a 23-26 G needle (24 G is recommended) and a 1 mL syringe. At room temperature, draw up the tumor cell-containing gel mixture from step 2 to the required injection volume (e.g., 0.2 mL) and let it sit at room temperature for at least 20 minutes.

Note 5: If the needle becomes clogged during drawing, remove the needle and use the syringe directly to

draw the mixture. It is recommended to prepare the required number of syringes for injection at once to avoid excessive gelation of the solution in step 2, which can cause clogging.

4. Transport the prepared syringes to the animal room at room temperature.

IV. Animal Room Material and Animal Injection Preparation Steps

1. Material Preparation Steps

a. Syringe containing the tumor cell mixture with M Gel and H Buffer.

b. Skin disinfectant (e.g., alcohol).

c. Gloves.

d. 5-6-week-old immunodeficient mice for the experiment.

e. Anesthetic for mice.

2. Preparation Steps for Subcutaneous Tumor Induction Injection in Mice

a. Inject the required volume for the experiment subcutaneously into the experimental mice using the prepared syringe.

Note 6: It is recommended to inject 0.2 mL subcutaneously, but the actual volume should be determined based on the requirements. If resistance increases due to the gel, inject slowly to avoid the needle dislodging.

Note 7: Taking the human colorectal tumor cell line HCT-116 as an example, the recommended cell concentration and injection volume are as follows: after 4 weeks of breeding, the tumor tissue size in mice can reach over 1000 mm^3.

Tumor Cell Line	Cell Concentration	Injection Volume	Injection Site	Mouse Strain
HCT-116	2×10^6cells/ mL	0.2mL	Subcutaneous injection	C.B17/IcrPrkdcscid/CrlNarl

b. The tumor size should be observed and measured weekly. The tumor tissue can be harvested after 4-5 weeks of breeding.