BDNF DISC™ - Standard
Product Information Sheet

StemCultures

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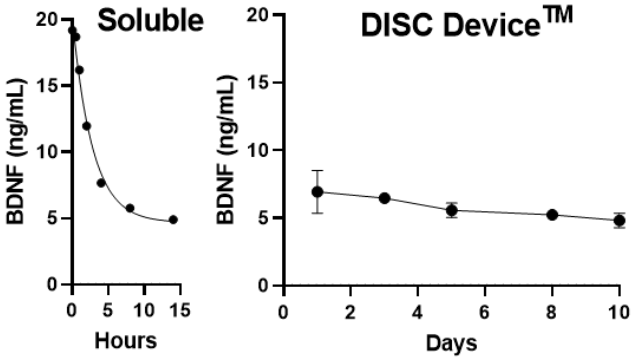
Product Description

BDNF DISCs™ are patented inert, non-degradable, biocompatible hydrogels that release defined levels of native BDNF stably into culture medium over the course of two weeks. BDNF DISCs™ are loaded with StemBeads® BDNF, PLGA microbeads that encapsulate the protein. BDNF is key for supporting neuronal differentiation. BDNF DISCs™ are easy to add and remove, giving scientists enhanced control of growth factor levels in their cultures. Controlled delivery and stable levels overcome the 2 hour half-life (Figure 1) of BDNF and improve cell cultures while saving researchers time and resources.

BDNF DISCs™ have been tested in multiple neuronal base media, including Brain Phys, with enhanced cellular profiles. In these cases, BDNF DISCs™ were used with and without GDNF DISCs™.

Figure 1



Product Information

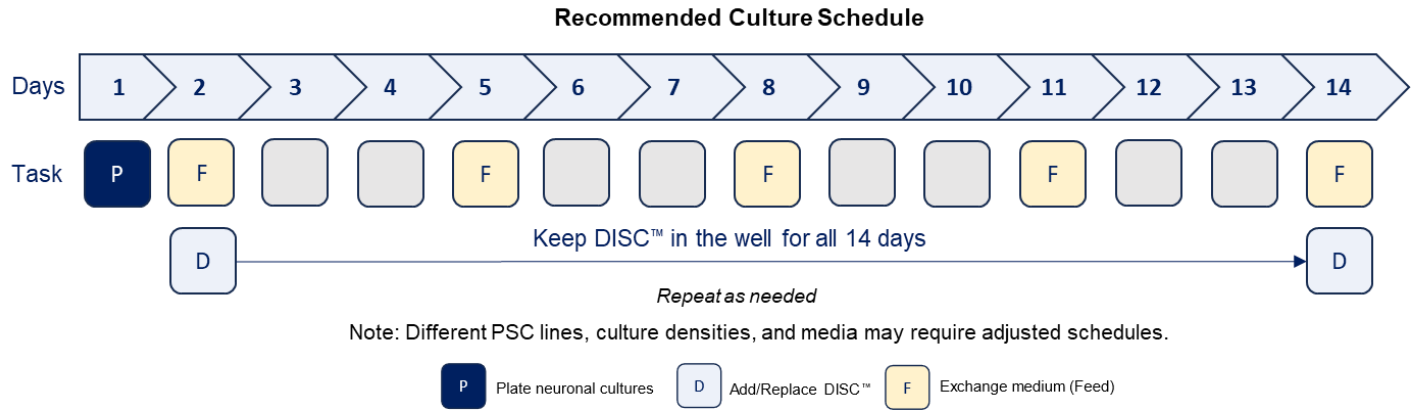
Catalog #	Product Name	Storage	Expiration	DISC™ Size	Recommended Well/Plate Size
DSCBD1-12	BDNF DISC™ (Standard)	4°C	4 months, as specified on label	2-3 mm diameter, dry 5-6 mm diameter, rehydrated	6 well, 12 well

Directions for Use

NOTE: For 2D cultures, place DISC™ in a Transwell® to avoid cell lifting. For 3D cultures (i.e. organoids) place DISC™ directly in the culture well.

1. Using aseptic cell culture technique, wipe DISC™ container with 70% ethanol and place into a biosafety cabinet before opening.
2. Plate cells and add culture medium to wells according to your typical protocol.
3. Using sterile forceps, transfer each DISC™ into a culture well or Transwell® containing 2 mL of medium (see Release Data section on page 2 for more information on release and adjustments).

   Note: As DISCs™ rehydrate, they will swell and become transparent. Embedded StemBeads® will be visible under a microscope. An image of a DISC™ under a microscope is on page 2 for reference.
4. Replace the medium based on your typical feeding schedule. You can use a low powered vacuum or a pipette to remove the medium but not the DISC™. The original DISC™ can remain in your cultures for 2 weeks.



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Release Data

We recommend a release of 5 ng/mL when culturing neuronal cells. However, to fit other needs, the release can be adjusted slightly based on the amount of medium and the number of DISCs™ that are added. See the chart below for reference.

DISC™ Size	Volume of Medium Added	Number of DISCs™ per well	Release in Volume of Medium Added	Example Plate Size
Standard (DSCBD1)	2 mL	1	5 ng/mL	6 well
Standard (DSCBD1)	1 mL	1	10 ng/mL	12 or 24 well
Standard (DSCBD1)	0.5 mL	1	20 ng/mL	24 well
Standard (DSCBD1)	2 mL	2	10 ng/mL	6 well
Standard (DSCBD1)	2 mL	3	15 ng/mL	6 well
Standard (DSCBD1)	2 mL	4	20 ng/mL	6 well

Visual of DISCs™ in Culture

BDNF DISCs™ will become transparent when rehydrated. Cells under the DISC™ and the embedded StemBeads® will be visible under a microscope as seen in Figure 2 below.

Figure 2