

**New Efficient**

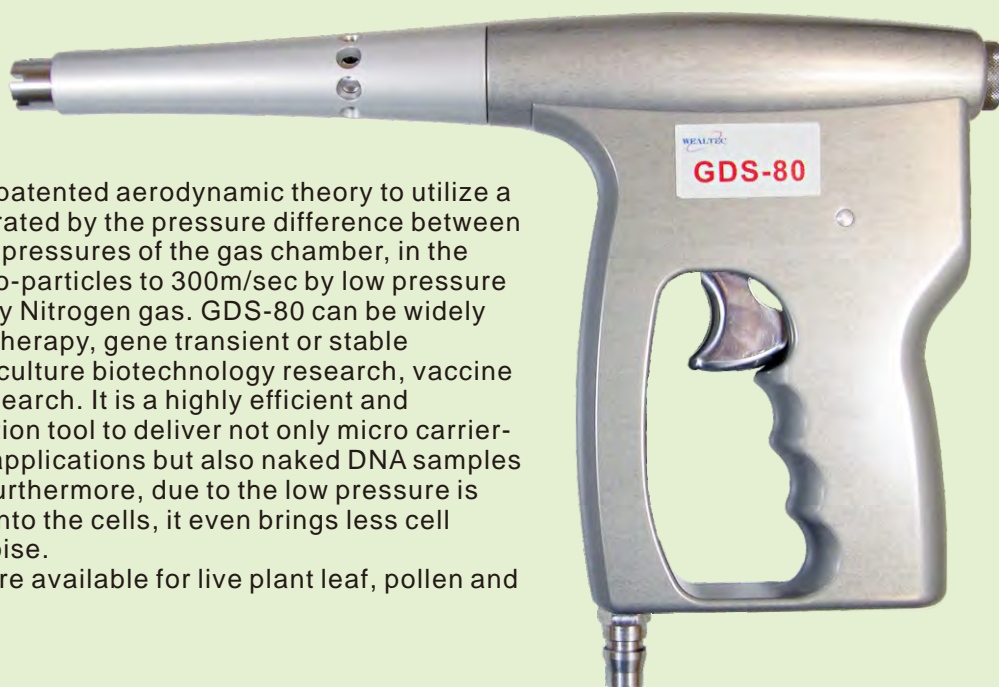
**Tool for Gene Transfection**

**GDS-80**

## Technology

GDS-80 is invented upon patented aerodynamic theory to utilize a supersonic gas flow generated by the pressure difference between the inside and the outside pressures of the gas chamber, in the barrel to accelerate the bio-particles to 300m/sec by low pressure Helium gas or 200m/sec by Nitrogen gas. GDS-80 can be widely used in the fields of gene therapy, gene transient or stable expression research, agriculture biotechnology research, vaccine research, and immune research. It is a highly efficient and convenient gene transfection tool to deliver not only micro carrier-coated samples for plant applications but also naked DNA samples for animal applications. Furthermore, due to the low pressure is used to drive the particle into the cells, it even brings less cell damages and minimum noise.

Wide range accessories are available for live plant leaf, pollen and gas flow adjustment.



## Features

- Portable one system for plant and animal cell
- Barrel is autoclaveable
- Naked DNA delivery for animal applications
- Simple preparation of bombardment
- Available to use both Helium and Nitrogen gas
- Minimum cell damage
- No rupture disc and vacuum pump required

## Applications

- Drug discovery, Biotechnology company
- Gene therapy, gene transient or stable expression research.
- Agriculture biotechnology research
- Vaccine research, and immune research
- Education, university, academic and research institute
- Proteomics, genomics core facility
- Food industrial and inspection laboratory

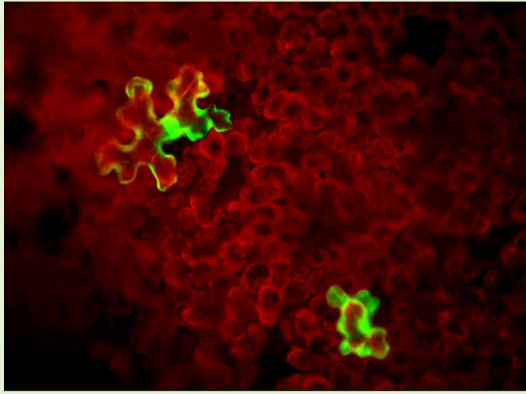
## Typical Applications



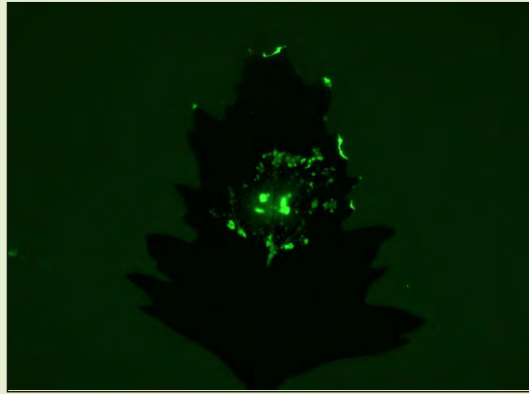
Sample: *Glycine max* L. Embryo  
Dye: GUS  
Accessory: Target Spacer, 6 cm  
Observation: Upright microscope



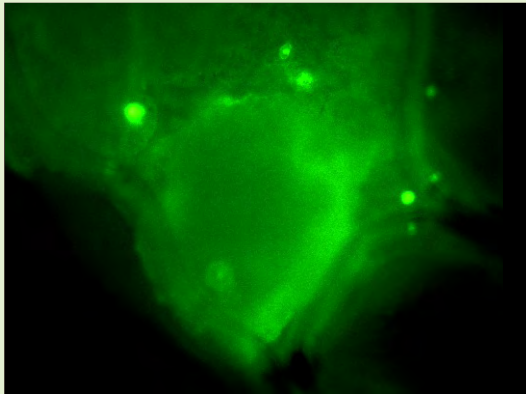
Sample: *Zea mays* L. Embryo  
Dye: GUS  
Accessory: Target Spacer, 6 cm  
Observation: Upright microscope



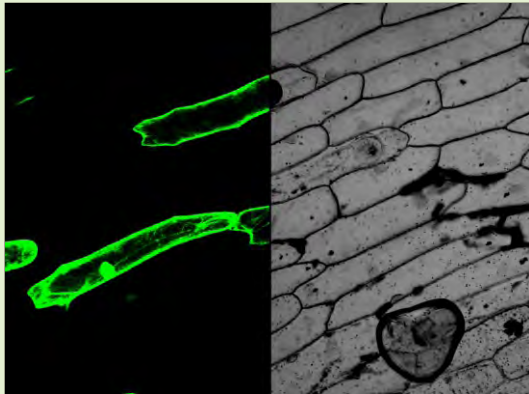
Sample: *Nicotiana tabacum* Leaf (in vivo)  
 Reporter gene: GFP  
 Accessory: LC-10  
 Observation: Fluorescence microscope



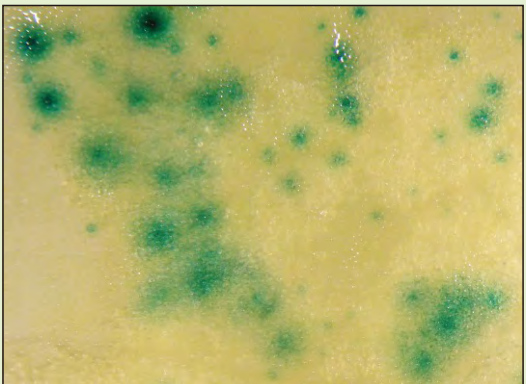
Sample: *Chenopodium album* Leaf (in vivo)  
 Reporter gene: GFP  
 Accessory: LC-10  
 Observation: Maestro™ CRI in vivo imaging system



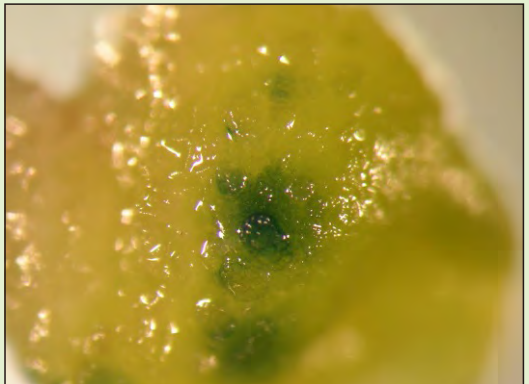
Sample: *Oryza sativa* L. Callus  
 Reporter gene: GFP  
 Accessory: UTS-10  
 Observation: Fluorescence microscope



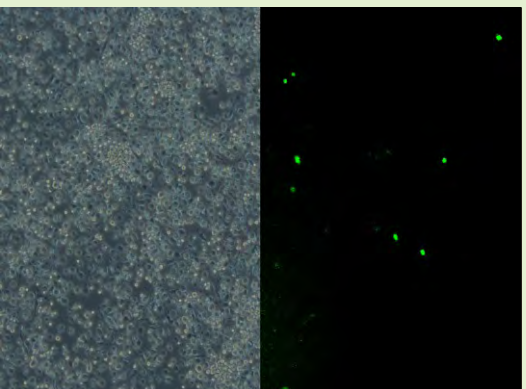
Sample: *Allium cepa* L. Epidermis  
 Reporter gene: GFP  
 Accessory: Target Spacer, 3 cm  
 Observation: Confocal microscope



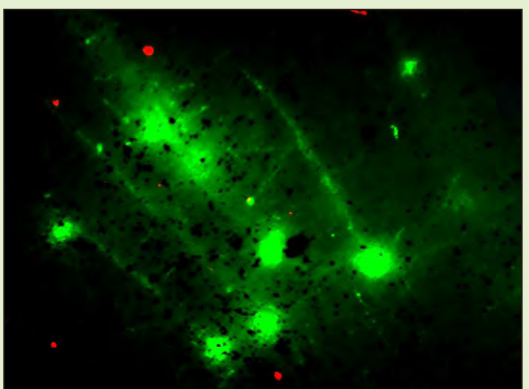
Sample: *Doritaenopsis* Petal  
 Reporter gene: GUS  
 Accessory: Target Spacer, 6 cm  
 Observation: Upright microscope



Sample: *Phalaenopsis* spp. PLB  
 Dye: GUS  
 Accessory: Target Spacer, 3 cm  
 Observation: Upright microscope



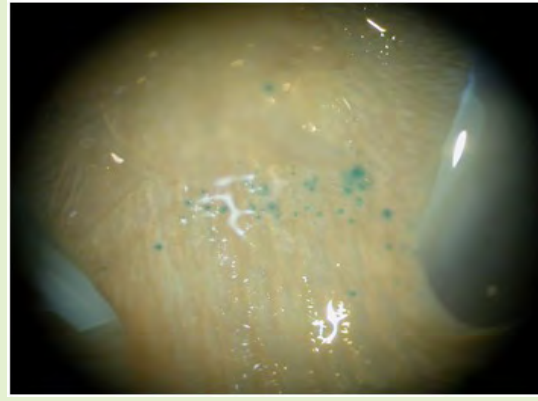
Sample: *Oncorhynchus mykiss*  
 Reporter gene: GFP  
 Accessory: None  
 Observation: Fluorescence microscope



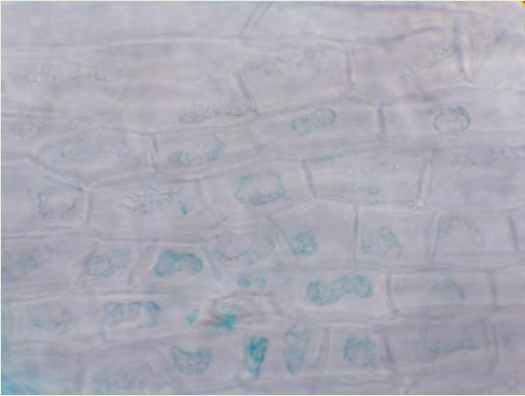
Sample: Mice Brain Slices  
 Dye: Two dye  
 Accessory: Cell Strainer  
 Observation: Fluorescence microscope



Sample: *Gower Ramsey Lip Crest Cell*  
 Reporter: GUS  
 Accessory: Target Spacer  
 Observation: Upright Microscope



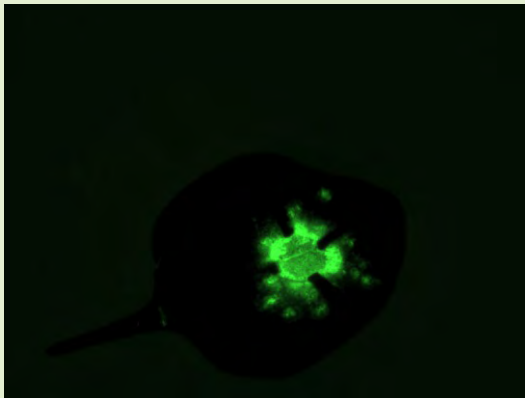
Sample: *Chenopodium album Leaf (in vivo)*  
 Reporter gene: GFP  
 Accessory: LC-10  
 Observation: Maestro™ CRI *in vivo* imaging system



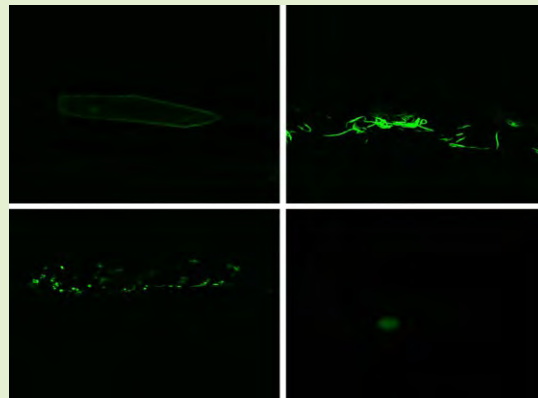
Sample: *Jatropha Cotyledon*  
 Reporter: GUS  
 Accessory: LC-10  
 Observation: Upright microscope



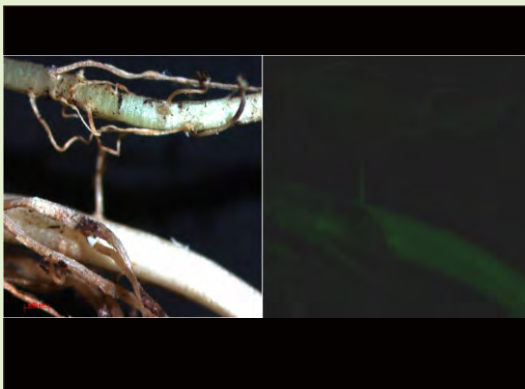
Sample: *Arabidopsis leaf*  
 Reporter: GUS  
 Accessory: LC-10  
 Observation: Digital Camera



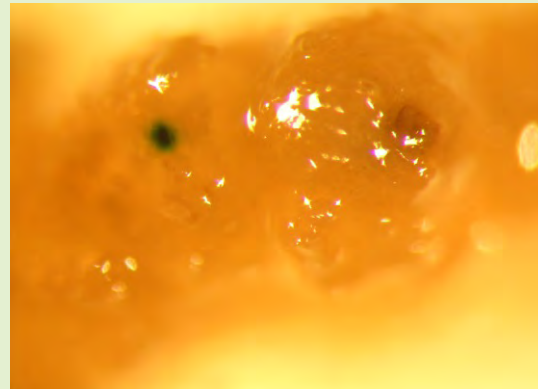
Sample: *Nicotiana tabacum Leaf (in vivo)*  
 Reporter gene: GFP  
 Accessory: LC-10  
 Observation: Maestro™ CRI *in vivo* imaging system



Sample: *Allumicepa L. Epidermis*  
 Reporter: GFP on glycoprotein  
 Accessory: Target Cell  
 Observation: Confocal microscope



Sample: *Dendrocalamus latiflorus Munro. Roots*  
 Reporter: GFP  
 Accessory: UTS-10  
 Observation: Maestro™ CRI *in vivo* imaging system



Sample: *Taraxacum Officinale Callus*  
 Reporter: GUS  
 Accessory: Target Spacer  
 Observation: Upright microscope

## Accessories

### Target spacer

Fixed height stainless steel 3 or 6 cm target spacers are ideal for GDS-80 performance condition and also perfect for sample delivery of plant system



### UTS-10

Universal target spacers designed with variable distance arm that specifically designed for plant targeting usage composed with three sizes of pollen shielder, lid stopper, pollen cup to assist user delivery sample with various conditions for power-like samples bombardment. Changeable supporter combines with tetraclaw leaf clamp is ideal for applying on living plants



### LC-10

Leaf clamp completed with tetraclaw leaf clamp, support, and sample soft bed are specifically designed for living plant targeting samples



### Quick connect/release coupler

Double side stainless steel quick connector equipped with ID 8mm Nylon hose for connecting main body and gas cylinder within a second without any tool



## Specifications

<b>Main Body</b>	All stainless steel made mainly consist of O-ring in between ensure no gas leakage. Weighted around 1.2 kg.
<b>Sample loading sleeve</b>	Finger-tight eight sample loading holes without using tools. Allow right-handed and left-handed users to adjust the barrel for their regular using habit.
<b>Barrel</b>	Autoclavable 4.5(plant) mm inside diameter barrel designed with inner mirror surface keeps no resistance while performing particle delivery.
<b>Mechanical differential Needle Value</b>	Adjustable differential needle valve optimizes spray even.
<b>Safety</b>	Pressed-release safety trigger prevents mistake happened when the process is not ready yet.
<b>Connection</b>	Double side stainless steel quick connector equipped with ID 8mm Nylon hose for connecting main body and gas cylinder within a second without any tool.
<b>Adjust &amp; display</b>	Two pressure gauges equipped regulator with flow meter, adjustable up limit to 80 psi bypass releasing valve prevent to damage the trigger.

The spec is subject to change without prior notice.

## Ordering Information

Catalog No.	Description
1081001	GDS-80U Low-pressure Gene Delivery Universal System for Plant & Animal, complete with mainbody, 4.5/10 mm diameter barrel set , gas pressure regulator, hose assembly, O-ring, sample loading sleeve, controlled temperature sample preparation device (1093001) and instruction manual
1081002	GDS-80P Low-pressure Gene Delivery System for Plant, complete with mainbody, 4.5 mm diameter barrel, gas pressure regulator, hose assembly, O-ring, sample loading sleeve, controlled temperature sample preparation device (1093001) and instruction manual
1081003	GDS-80A Low-pressure Gene Delivery System for Animal, complete with mainbody, 10 mm diameter barrel, gas pressure regulator, hose assembly, O-ring, sample loading sleeve, controlled temperature sample preparation device (1093001) and instruction manual
1081011	Spread even calibration kit , complete with 1081201 target spacer x1, 1081202 target spacer x1 and 1035106 Blotting paper, 75x110mm, 50pcs
<b>Accessories</b>	
1081121	UTS-10 Universal Target Spacer complete include variable distance arm, lid stopper, hollow supporter, pollen cup, shielder (20mm x1, 35mm x1, 50mm x1), tetra-claw leaf clamp, sample support x 2 and sample soft bed x 5 for use in live plant transfection
1081122	LC-10 Leaf clamp complete include variable distance arm, supporter, tetra-claw leaf clamp, sample soft bed x 5 for live plant use only
<b>Consumable</b>	
1081303	0.6 um gold microcarrier, 0.25 g/pk
1081304	0.6 um gold microcarrier, 1 g/pk
1081307	1.0 um gold microcarrier, 0.25 g/pk
1081308	1.0 um gold microcarrier, 1 g/pk
1081309	1.6 um gold microcarrier, 0.25 g/pk
1081310	1.6 um gold microcarrier, 1 g/pk



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