



# Application Note

## Mini Spray Dryer B-290

### Recombinant human DNase

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#### 1. General Information

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Type of application	Pharma / Medical, Natural product, Biopolymer, Protein, Enzyme
Type of application	Spray drying, Drug encapsulation
Applied device	BUCHI Mini Spray Dryer B-190
Recommended device	BUCHI Mini Spray Dryer B-290

#### 2. Sample preparation

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Sample concentration	15 - 90 mg/ml
Solvent	Water
Carrier , Filmogen	Sodium Chloride (NaCl), Lactose and Mannitol

#### 3. Spray drying parameters

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Inlet temperature	90°C
Outlet temperature	55°C
Pump rate	5 ml/min
Gas spray flow	-
Drying gas flow	-
Nozzle diameter	-

#### 4. Results

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Particle size	20% < 7 micron, 2.6 - 5.5 micron (pure rhDNase)
Morphology	Lactose particles irregular in shape, monolayer adhesion of rhDNase on carrier particles
Yield	-
Encapsulation efficiency	-

#### 5. Additional Information

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Remarks	Investigations of different salt concentrations and carriers.
Reference	Spray Dried Powders and Powder Blends of Recombinant Human Deoxyribonuclease (rhDNase) for Aerosol Delivery. Pharm. Res., Vol. 14, No. 4, p. 431-437 (1997)

The given process parameters are used as starting values for process optimization and give an indication if the material can be spray dried or not.