

Valbenazine Alternative Administration



Valbenazine Offers Alternative Administration Options

- Valbenazine is a highly selective vesicular monoamine transporter (VMAT2) inhibitor available in two dosage forms^{1,2}:
 - INGREZZA® (valbenazine) capsules
 - INGREZZA® SPRINKLE (valbenazine) capsules
- Both formulations are FDA-approved for the treatment of adults with tardive dyskinesia and chorea associated with Huntington's disease

Alternative Administration



INGREZZA

3 Studies Were Conducted to Assess Alternative Delivery Methods for INGREZZA Capsules			
Study	Valbenazine Crushed Content Dissolution	Food Compatibility	Gastrostomy tube (G-tube) Suitability and Stability
Purpose	To evaluate the in vitro dissolution performance of whole intact capsule versus crushed capsule contents	To assess the stability of crushed capsule contents mixed in various soft foods and media	To evaluate the G-tube suitability of crushed capsule contents and determine the appropriate procedure for administration
Methods	<ul style="list-style-type: none"> Samples were prepared using two commercial lots (Lot A, Lot B) per dose for two doses (40 mg, 80 mg) The whole intact capsules or crushed sample contents were added to a dissolution bath Samples were collected throughout 60 minutes and analyzed using high performance liquid chromatography 	<ul style="list-style-type: none"> Crushed valbenazine was tested in: <ul style="list-style-type: none"> Apple sauce, yogurt, pudding Range of buffers Fed state simulated gastric fluid Valbenazine content was measured over a 2-hour period Food/media were deemed acceptable for valbenazine administration when they yielded 90-110% recovery 	<ul style="list-style-type: none"> Crushed valbenazine was mixed into 10 mL of water and added to a silicone G-tube via a syringe Valbenazine content was assessed using various water temperatures, G-tube diameters, cup rinses, and storage temperatures
Results	Crushing the capsule contents of valbenazine did not impact the dissolution performance in vitro	Recovery of valbenazine was acceptable within 2 hours after crushed capsule contents were added to the testing food/media	G-tube administration was suitable with crushed valbenazine in hot or cold water with a cup rinse
	Detailed Study Methodology	Detailed Study Methodology	Detailed Study Methodology

3 in vitro studies



INGREZZA SPRINKLE

The INGREZZA SPRINKLE formulation cannot be administered via nasogastric, gastrostomy, or other enteral tubes because it may cause obstruction of enteral tubes. Do not crush or chew.

Administration Information for INGREZZA SPRINKLE

- Administer INGREZZA SPRINKLE orally with or without food.
- Open INGREZZA SPRINKLE and sprinkle the entire contents of the capsule over a bowl containing a small amount (1 tablespoonful) of soft food such as applesauce, yogurt, or pudding.
- Do not sprinkle the contents of the capsule into milk or drinking water.
- Stir the contents of the capsule into the soft food with the tablespoon and swallow the drug/food mixture immediately. If necessary, the mixture can be stored for up to 2 hours at room temperature.
- Discard of any unused portion after 2 hours.
- Following administration of the drug/food mixture, drink a glass (e.g., 240 mL) of water.
- Do not administer INGREZZA SPRINKLE via nasogastric, gastrostomy, or other enteral tubes because it may cause obstruction of enteral tubes.
- INGREZZA SPRINKLE may be swallowed whole with water. Do not crush or chew INGREZZA SPRINKLE.




INGREZZA SPRINKLE Administration Information



1. INGREZZA [package insert]. San Diego, CA: Neurocrine Biosciences, Inc. 2. Brar S, et al. Clin Pharmacol Drug Dev. 2023;12(4):447-456.

Three Studies Were Conducted to Assess Alternative Delivery Methods for INGREZZA

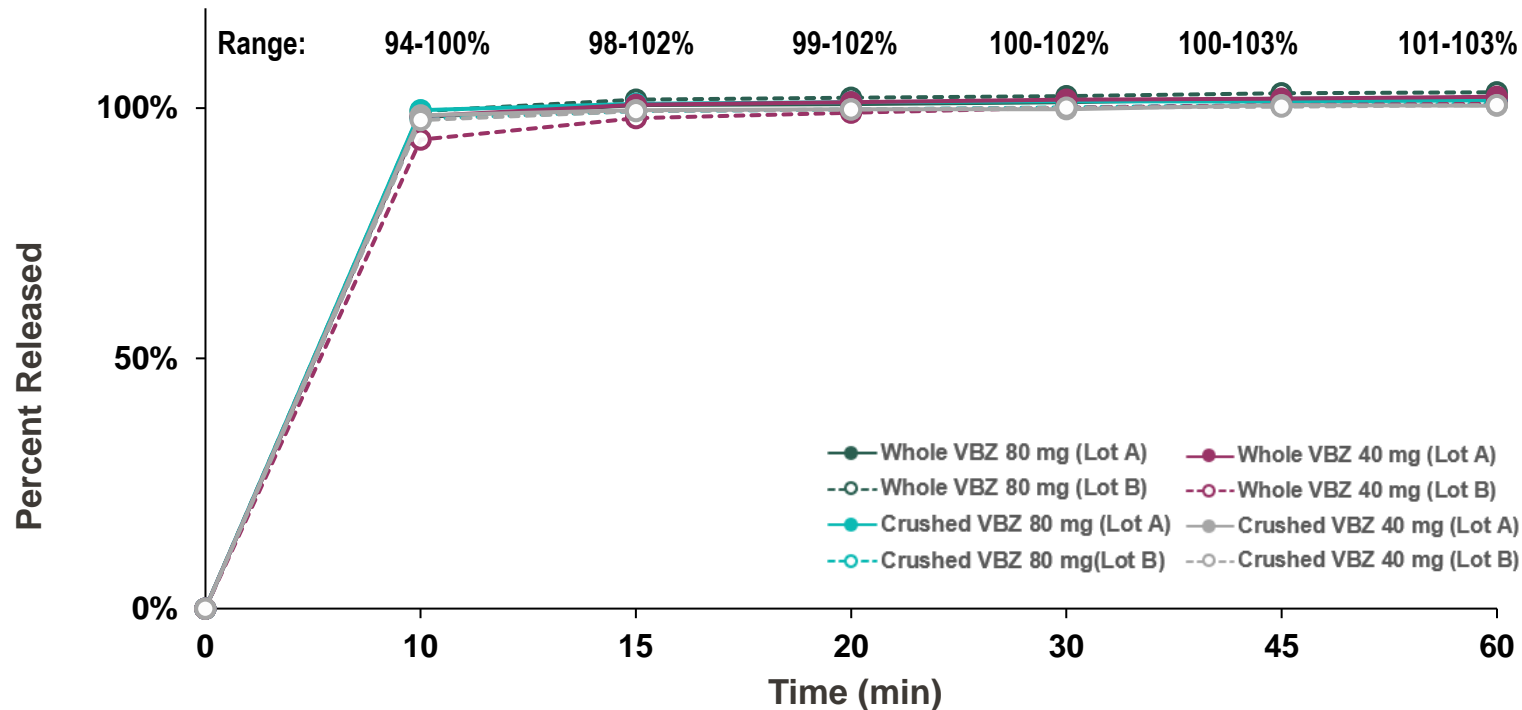
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Additional Information 	Detailed Study Methodology	Detailed Study Methodology	Detailed Study Methodology

Hebert M, et al. ASCP 2022 Annual Meeting; San Antonio, TX.

Valbenazine Crushed Content Dissolution: Results

Crushing the capsule contents of valbenazine did not impact the dissolution performance in vitro

- Very rapid (>98% in 15 min) and complete drug release was observed in all samples, independent of capsule strength (40 mg, 80 mg) or preparation (whole intact capsule or crushed capsule contents)
- For both 40 mg and 80 mg capsules, the average percent released at the 10-minute and 60-minute collection timepoint was similar for whole versus crushed for each lot



VBZ, valbenazine.
Hebert M, et al. ASCP 2022 Annual Meeting; San Antonio, TX.

Food Compatibility: Results

Crushed valbenazine capsule contents may be mixed with applesauce, yogurt, pudding, or other allowable soft foods and consuming within 2 hours

- Recovery of valbenazine 40 mg and 80 mg was acceptable (90-110% yield) within 2 hours after crushed capsule contents were added to applesauce, yogurt, and pudding
- Recovery of valbenazine 40 mg was acceptable within 2 hours after dissolution in buffers (pH 1.2, pH 4.5, and pH 6.8) and FeSSGF

[Detailed Results](#)

Based on pH and common use, other acceptable foods and liquids include:



- Cottage cheese
- Hummus
- Jelly/jam



- Blueberries
- Mangoes
- Cherries
- Peaches
- Pears
- Raspberries
- Strawberries
- Mashed/soft bananas
- Pineapple
- Prunes
- Raspberries
- Strawberries
- Sweet potatoes
- Potatoes (Red/Russet/Yukon Gold)



- Orange juice
- Cranberry juice

FeSSGF, fed state simulated gastric fluid.

Hebert M, et al. ASCP 2022 Annual Meeting; San Antonio, TX.

G-Tube Suitability and Stability: Results

G-tube administration was suitable with crushed valbenazine contents in cold or hot water and a cup rinse

- Acceptable levels (90.6-96.9%) of crushed valbenazine contents (40 mg and 80 mg) were recovered in both cold or hot water (0.5°C to 50°C) and a cup rinse
 - Without a cup rinse, the contents were not generally suitable for G-tube administration
- After storage in water at room temperature (23.7°C) for 2.5 hours, 94.1-96.9% of crushed valbenazine contents were recovered



[Detailed Results](#)

[Click to expand](#)



G-Tube Administration of Valbenazine (All Strengths) per Study Protocol (≥12 Fr)

- STEP 1**
Open the capsule and place the contents into a cup
- STEP 2**
Crush the capsule until it is a fine, uniform powder
- STEP 3**
Add 10 mL of water (0.5°C to 50.0°C) to the cup using a catheter tip syringe
- STEP 4**
Use a spoon to mix the solution for approximately 30 seconds or until all the powder is uniformly dispersed in the liquid
- STEP 5**
After the capsule contents have dispersed, draw the entire solution up into a catheter tip syringe
- STEP 6**
Apply the steady pressure to dispense the mixture immediately through the G-tube
- STEP 7**
Add 10 mL of water to the cup to disperse any residual drug and repeat steps 4 to 6 using the same catheter tip syringe
- STEP 8**
Add 10 mL of water to the same catheter tip syringe and pass directly through the G-tube

Summary

- Three in vitro studies were conducted to assess alternative delivery methods for INGREZZA¹
 - Crushing the capsule contents of valbenazine did not impact the dissolution performance *in vitro*
 - A food compatibility study demonstrated that crushed capsule contents of valbenazine may be administered by mixing with applesauce, yogurt, pudding, or other allowable soft foods or liquids and consuming within 2 hours
 - A G-tube suitability study showed that crushed capsule contents of valbenazine are compatible with administration via G-tube, added to either cold or hot water (0.5°C to 50°C) along with a cup rinse
- INGREZZA SPRINKLE cannot be administered via nasogastric, gastrostomy, or other enteral tubes because it may cause obstruction of enteral tubes²

1. Hebert M, et al. ASCP 2022 Annual Meeting; San Antonio, TX. 2. INGREZZA [package insert]. San Diego, CA: Neurocrine Biosciences, Inc.

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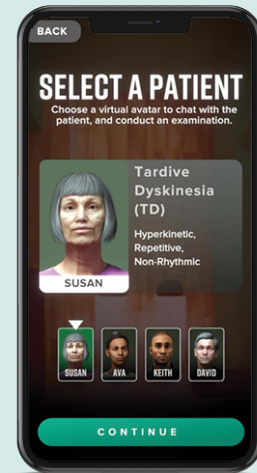
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^aFor educational purposes only. Should not be interpreted as medical advice for any particular patient. Individual results may vary.



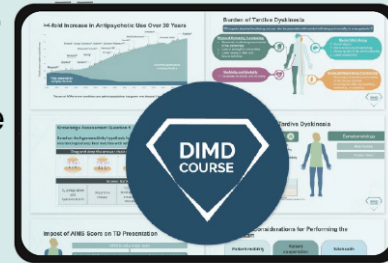
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The **DIMD Course** is a free, virtual learning resource for health care providers that delves into various clinical aspects of the most common DRBA-induced movement disorders.



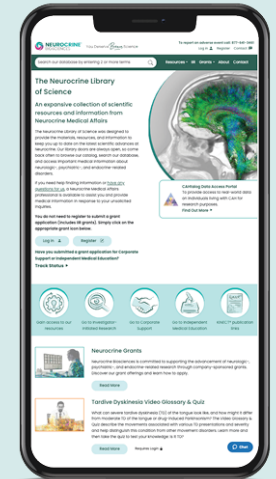
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Neurocrine Medical Website

The **Neurocrine Medical Website** houses a variety of resources, such as educational podcasts and videos, to assist healthcare providers in the recognition and appropriate differentiation of DRBA-induced movement disorders.



Visit the
Neurocrine Medical Website

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DIMD, drug-induced movement disorder; DRBA, dopamine receptor-blocking agent; TD, tardive dyskinesia.