

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use ABRAXANE safely and effectively. See full prescribing information for ABRAXANE

ABRAXANE® for Injectable Suspension (paclitaxel protein-bound particles for injectable suspension) (albumin-bound)
Initial U.S. Approval: 2005

WARNING: NEUTROPENIA

See full prescribing information for complete boxed warning.

- ABRAXANE therapy should not be administered to patients with baseline neutrophil counts of less than 1,500 cells/mm³ (4).
- It is recommended that frequent peripheral blood cell counts be performed to monitor the occurrence of bone marrow suppression. (4, 5.1, 6.1)

DO NOT SUBSTITUTE FOR OR WITH OTHER PACLITAXEL FORMULATIONS

RECENT MAJOR CHANGES

INDICATIONS AND USAGE

ABRAXANE is a microtubule inhibitor indicated for the treatment of breast cancer after failure of combination chemotherapy for metastatic disease or relapse within 6 months of adjuvant chemotherapy. Prior therapy should have included an anthracycline unless clinically contraindicated.

DOSAGE AND ADMINISTRATION

- Recommended dosage: 260 mg/m² IV over 30 min every 3 weeks (2.1)
- No adjustment is necessary for patients with mild hepatic impairment. Patients should not receive ABRAXANE if AST > 10 x ULN or bilirubin > 5.0 x ULN. Reduce starting dose in patients with moderate to severe hepatic impairment. (2.2)
- In case of severe neutropenia or severe sensory neuropathy reduce dose to 220 mg/m² for subsequent courses. In case of recurrence, further reduce dose to 180 mg/m². For grade 3 sensory neuropathy hold treatment until resolution to grade 1 or 2, followed by a dose reduction for all subsequent courses. (2.3)

- Use caution when handling cytotoxic drugs. Closely monitor the infusion site for extravasation and infiltration. No premedication is required prior to administration. (2.4)

DOSAGE FORMS AND STRENGTHS

- Single use vial containing 100 mg of paclitaxel (3)

CONTRAINDICATIONS

- Neutrophil counts of < 1,500 cells/mm³. (4)
- Severe hypersensitivity reaction to ABRAXANE (4)

WARNINGS AND PRECAUTIONS

- ABRAXANE causes myelosuppression. Monitor CBC and withhold and/or reduce the dose as needed. (5.1)
- Sensory neuropathy occurs frequently and may require dose reduction or treatment interruption. (5.2)
- Exposure and toxicity of paclitaxel can be increased in patients with hepatic impairment; therefore administer with caution. (5.3)
- ABRAXANE contains albumin derived from human blood which has a theoretical risk of viral transmission. (5.4)
- Fetal harm may occur when administered to a pregnant woman. Women of childbearing potential should avoid becoming pregnant while receiving ABRAXANE. (5.5)
- Men should not father a child while on ABRAXANE. (5.6)

ADVERSE REACTIONS

The most common adverse reactions (≥ 20%) are alopecia, neutropenia, sensory neuropathy, abnormal ECG, fatigue/asthenia, myalgia/artralgia, AST elevation, alkaline phosphatase elevation, anemia, nausea, infections, and diarrhea. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Celgene Corporation at 1-888-423-5436 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Use caution when concomitantly administering ABRAXANE with inhibitors or inducers of either CYP2C8 or CYP3A4. (7)

See 17 for PATIENT COUNSELING INFORMATION and see FDA-approved patient labeling.

Revised: 12/2011

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FULL PRESCRIBING INFORMATION

ABRAXANE[®] for Injectable Suspension (paclitaxel protein-bound particles for injectable suspension) (albumin-bound)

WARNING: NEUTROPENIA

- **ABRAXANE therapy should not be administered to patients with metastatic breast cancer who have baseline neutrophil counts of less than 1,500 cells/mm³. In order to monitor the occurrence of bone marrow suppression, primarily neutropenia, which may be severe and result in infection, it is recommended that frequent peripheral blood cell counts be performed on all patients receiving ABRAXANE [see Contraindications (4), Warnings and Precautions (5.1) and Adverse Reactions (6.1)].**
- **Note: An albumin form of paclitaxel may substantially affect a drug's functional properties relative to those of drug in solution. DO NOT SUBSTITUTE FOR OR WITH OTHER PACLITAXEL FORMULATIONS.**

1 INDICATIONS AND USAGE

ABRAXANE for Injectable Suspension (paclitaxel protein-bound particles for injectable suspension) is indicated for the treatment of breast cancer after failure of combination chemotherapy for metastatic disease or relapse within 6 months of adjuvant chemotherapy. Prior therapy should have included an anthracycline unless clinically contraindicated.

2 DOSAGE AND ADMINISTRATION

2.1 General

After failure of combination chemotherapy for metastatic breast cancer or relapse within 6 months of adjuvant chemotherapy, the recommended regimen for ABRAXANE is 260 mg/m² administered intravenously over 30 minutes every 3 weeks.

2.2 Dosage in Patients with Hepatic Impairment

No dose adjustment is necessary for patients with mild hepatic impairment. Patients with moderate and severe hepatic impairment treated with ABRAXANE may be at increased risk of toxicities known to paclitaxel. Patients should not receive ABRAXANE if AST > 10 x ULN or bilirubin > 5.0 x ULN. Recommendations for dosage adjustment for the first course of therapy are shown in Table 1. The dose of ABRAXANE can be increased up to 200 mg/m² in patients with severe hepatic impairment in subsequent cycles based on individual tolerance. Patients should be monitored closely [see *Clinical Pharmacology (12.3) and Warnings and Precautions (5.3) and Use in Specific Populations (8.6)*].

Table 1: Recommendations for Starting Dose in Patients with Hepatic Impairment

	SGOT (AST) Levels		Bilirubin Levels	ABRAXANE ^a
Mild	< 10 x ULN		> ULN to ≤ 1.25 x ULN	260 mg/m ²
Moderate	< 10 x ULN	AND	1.26 to 2.0 x ULN	200 mg/m ²
Severe	< 10 x ULN		2.01 to 5.0 x ULN	130 mg/m ² ^b
	> 10 x ULN	OR	> 5.0 x ULN	not eligible

^a Dosage recommendations are for the first course of therapy. The need for further dose adjustments in subsequent courses should be based on individual tolerance.

^b A dose increase to 200 mg/m² in subsequent courses should be considered based on individual tolerance.

2.3 Dose Reduction: in Case of Severe Neutropenia or Severe Sensory Neuropathy

Patients who experience severe neutropenia (neutrophil <500 cells/mm³ for a week or longer) or severe sensory neuropathy during ABRAXANE therapy should have dosage reduced to 220 mg/m² for subsequent courses of ABRAXANE. For recurrence of severe neutropenia or severe sensory neuropathy, additional dose reduction should be made to 180 mg/m². For grade 3 sensory neuropathy hold treatment until resolution to grade 1 or 2, followed by a dose reduction for all subsequent courses of ABRAXANE [see *Contraindications (4), Warnings and Precautions (5.1 and 5.2) and Adverse Reactions (6.1)*].

2.4 Preparation and Administration Precautions


ABRAXANE is a cytotoxic drug and, as with other potentially toxic paclitaxel compounds, caution should be exercised in handling ABRAXANE. The use of gloves is recommended. If ABRAXANE (lyophilized cake or reconstituted suspension) contacts the skin, wash the skin immediately and thoroughly with soap and water. Following topical exposure to paclitaxel, events may include tingling, burning and redness. If ABRAXANE contacts mucous membranes, the membranes should be flushed thoroughly with water.

Given the possibility of extravasation, it is advisable to closely monitor the infusion site for possible infiltration during drug administration. Limiting the infusion of ABRAXANE to 30 minutes, as directed, reduces the likelihood of infusion-related reactions [see *Adverse Reactions (6.2)*].

No premedication to prevent hypersensitivity reactions is required prior to administration of ABRAXANE.

2.5 Preparation for Intravenous Administration

ABRAXANE is supplied as a sterile lyophilized powder for reconstitution before use. **AVOID ERRORS, READ ENTIRE PREPARATION INSTRUCTIONS PRIOR TO RECONSTITUTION.**

1. Aseptically, reconstitute each vial by injecting 20 mL of 0.9% Sodium Chloride Injection, USP.
2. Slowly inject the 20 mL of 0.9% Sodium Chloride Injection, USP, over a minimum of 1 minute, using the sterile syringe to direct the solution flow onto the INSIDE WALL OF THE VIAL.

3. DO NOT INJECT the 0.9% Sodium Chloride Injection, USP, directly onto the lyophilized cake as this will result in foaming.
4. Once the injection is complete, allow the vial to sit for a minimum of 5 minutes to ensure proper wetting of the lyophilized cake/powder.
5. Gently swirl and/or invert the vial slowly for at least 2 minutes until complete dissolution of any cake/powder occurs. Avoid generation of foam.
6. If foaming or clumping occurs, stand solution for at least 15 minutes until foam subsides.

Each mL of the reconstituted formulation will contain 5 mg/mL paclitaxel.

Calculate the exact total dosing volume of 5 mg/mL suspension required for the patient: $\text{Dosing volume (mL)} = \frac{\text{Total dose (mg)}}{5 \text{ (mg/mL)}}$

The reconstituted suspension should be milky and homogenous without visible particulates. If particulates or settling are visible, the vial should be **gently** inverted again to ensure complete resuspension prior to use. Discard the reconstituted suspension if precipitates are observed. Discard any unused portion.

Inject the appropriate amount of reconstituted ABRAXANE into an empty, sterile IV bag [plasticized polyvinyl chloride (PVC) containers, PVC or non-PVC type IV bag]. The use of specialized DEHP-free solution containers or administration sets is not necessary to prepare or administer ABRAXANE infusions. The use of an in line filter is not recommended.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit.

2.6 Stability

Unopened vials of ABRAXANE are stable until the date indicated on the package when stored between 20°C to 25°C (68°F to 77°F) in the original package. Neither freezing nor refrigeration adversely affects the stability of the product.

Stability of Reconstituted Suspension in the Vial

Reconstituted ABRAXANE in the vial should be used immediately, but may be refrigerated at 2°C to 8°C (36°F to 46°F) for a maximum of 8 hours if necessary. If not used immediately, each vial of reconstituted suspension should be replaced in the original carton to protect it from bright light. Discard any unused portion.

Stability of Reconstituted Suspension in the Infusion Bag

The suspension for infusion when prepared as recommended in an infusion bag should be used immediately but may be stored at ambient temperature (approximately 25°C) and lighting conditions for up to 4 hours. Discard any unused portion.

3 DOSAGE FORMS AND STRENGTHS

Single use vials containing 100 mg of paclitaxel.

4 CONTRAINDICATIONS

ABRAXANE should not be used in patients who have baseline neutrophil counts of $< 1,500 \text{ cells/mm}^3$. Patients who experience a severe hypersensitivity reaction to ABRAXANE should not be rechallenged with the drug.

5 WARNINGS AND PRECAUTIONS

5.1 Hematologic Effects

Bone marrow suppression (primarily neutropenia) is dose dependent and a dose limiting toxicity. ABRAXANE should not be administered to patients with baseline neutrophil counts of less than $1,500 \text{ cells/mm}^3$. In order to monitor the occurrence of myelotoxicity, perform frequent peripheral blood cell counts. Retreat with subsequent cycles of ABRAXANE after neutrophils recover to a level $> 1,500 \text{ cells/mm}^3$ and platelets recover to a level $> 100,000 \text{ cells/mm}^3$. In the case of severe neutropenia ($< 500 \text{ cells/mm}^3$

for seven days or more) during a course of ABRAXANE therapy, dose reduce for subsequent courses of therapy. [see Dosage and Administration (2.3)].

5.2 Nervous System

Sensory neuropathy occurs frequently with ABRAXANE. The occurrence of grade 1 or 2 sensory neuropathy does not generally require dose modification. If grade 3 sensory neuropathy develops, treatment should be withheld until resolution to grade 1 or 2 followed by a dose reduction for all subsequent courses of ABRAXANE [see Dosage and Administration (2.3)].

5.3 Hepatic Impairment

Because the exposure and toxicity of paclitaxel can be increased with hepatic impairment, administration of ABRAXANE in patients with hepatic impairment should be performed with caution. The starting dose should be reduced for patients with moderate and severe hepatic impairment [see Dosage and Administration (2.2), Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)].

5.4 Albumin (Human)

ABRAXANE contains albumin (human), a derivative of human blood. Based on effective donor screening and product manufacturing processes, it carries a remote risk for transmission of viral diseases. A theoretical risk for transmission of Creutzfeldt-Jakob Disease (CJD) also is considered extremely remote. No cases of transmission of viral diseases or CJD have ever been identified for albumin.

5.5 Use in Pregnancy

ABRAXANE can cause fetal harm when administered to a pregnant woman. Administration of paclitaxel protein-bound particles to rats during pregnancy at doses lower than the maximum recommended human dose, based on body surface area, caused embryo-fetal toxicities, including intrauterine mortality, increased resorptions, reduced numbers of live fetuses, and malformations.

There are no adequate and well-controlled studies in pregnant women receiving ABRAXANE. If this drug is used during pregnancy, or if the patient becomes pregnant while receiving this drug, the patient should be apprised of the potential hazard to the fetus. Women of childbearing potential should be advised to avoid becoming pregnant while receiving ABRAXANE [see Use in Specific Populations (8.1)].

5.6 Use in Men

Men should be advised not to father a child while receiving ABRAXANE. [see Nonclinical Toxicology (13.1)].

6 ADVERSE REACTIONS

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

The most common adverse reactions ($\geq 20\%$) are alopecia, neutropenia, sensory neuropathy, abnormal ECG, fatigue/asthenia, myalgia/arthralgia, AST elevation, alkaline phosphatase elevation, anemia, nausea, infections, diarrhea.

6.1 Clinical Trials Experience

The following table shows the frequency of important adverse events in the randomized comparative trial for the patients who received either single-agent ABRAXANE or paclitaxel injection for the treatment of metastatic breast cancer.

Table 2: Frequency^a of Important Treatment Emergent Adverse Events in the Randomized Study on an Every-3-Weeks Schedule

	Percent of Patients	
	ABRAXANE [®] 260 mg/m ² over 30 min (n=229)	Paclitaxel Injection 175 mg/m ² over 3 h ^b (n=225)
Bone Marrow		
Neutropenia		
< 2.0 x 10 ⁹ /L	80	82
< 0.5 x 10 ⁹ /L	9	22
Thrombocytopenia		
< 100 x 10 ⁹ /L	2	3
< 50 x 10 ⁹ /L	<1	<1
Anemia		
< 11 g/dL	33	25
< 8 g/dL	1	<1
Infections	24	20
Febrile Neutropenia	2	1
Bleeding	2	2
Hypersensitivity Reaction^c		
All	4	12
Severe ^d	0	2

	Percent of Patients	
	ABRAXANE [®] 260 mg/m ² over 30 min (n=229)	Paclitaxel Injection 175 mg/m ² over 3 h ^b (n=225)
Cardiovascular		
Vital Sign Changes During Administration		
Bradycardia	<1	<1
Hypotension	5	5
Severe Cardiovascular Events ^d	3	4
Abnormal ECG		
All patients	60	52
Patients with Normal Baseline	35	30
Respiratory		
Cough	7	6
Dyspnea	12	9
Sensory Neuropathy		
Any Symptoms	71	56
Severe Symptoms ^d	10	2
Myalgia / Arthralgia		
Any Symptoms	44	49
Severe Symptoms ^d	8	4
Asthenia		
Any Symptoms	47	39
Severe Symptoms ^d	8	3
Fluid Retention/Edema		
Any Symptoms	10	8
Severe Symptoms ^d	0	<1
Gastrointestinal		
Nausea		
Any symptoms	30	22
Severe symptoms ^d	3	<1
Vomiting		
Any symptoms	18	10
Severe Symptoms ^d	4	1
Diarrhea		
Any Symptoms	27	15
Severe Symptoms ^d	<1	1
Mucositis		
Any Symptoms	7	6
Severe Symptoms ^d	<1	0
Alopecia	90	94
Hepatic (Patients with Normal Baseline)		
Bilirubin Elevations	7	7
Alkaline Phosphatase Elevations	36	31
AST (SGOT) Elevations	39	32
Injection Site Reaction	<1	1

^a Based on worst grade by NCI Common Terminology Criteria for Adverse Events (CTCAE) version 2.

^b Paclitaxel injection pts received premedication.

^c Includes treatment-related events related to hypersensitivity (e.g., flushing, dyspnea, chest pain, hypotension) that began on a day of dosing.

^d Severe events are defined as at least grade 3 toxicity.

Adverse Event Experiences by Body System

Hematologic Disorders

Neutropenia was dose dependent and reversible. Among patients with metastatic breast cancer in the randomized trial, neutrophil counts declined below 500 cells/mm³ (Grade 4) in 9% of the patients treated with a dose of 260 mg/m² compared to 22% in patients receiving paclitaxel injection at a dose of 175 mg/m². Pancytopenia has been observed in clinical trials.

Infections

Infectious episodes were reported in 24% of the patients treated with ABRAXANE. Oral candidiasis, respiratory tract infections and pneumonia were the most frequently reported infectious complications.

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