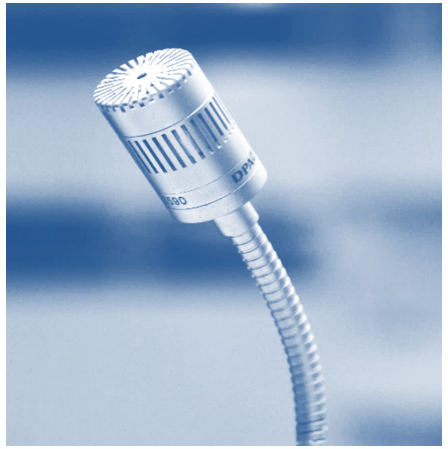
ECOP 5
European Conference of Oncology Pharmacy

NZW HAMBURG



Extended in-use stability of the generic nab-paclitaxel medicine Pazenir®

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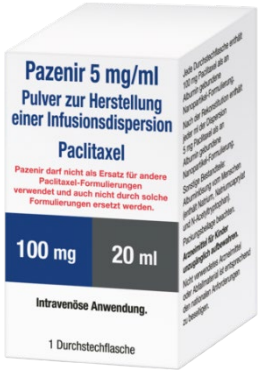
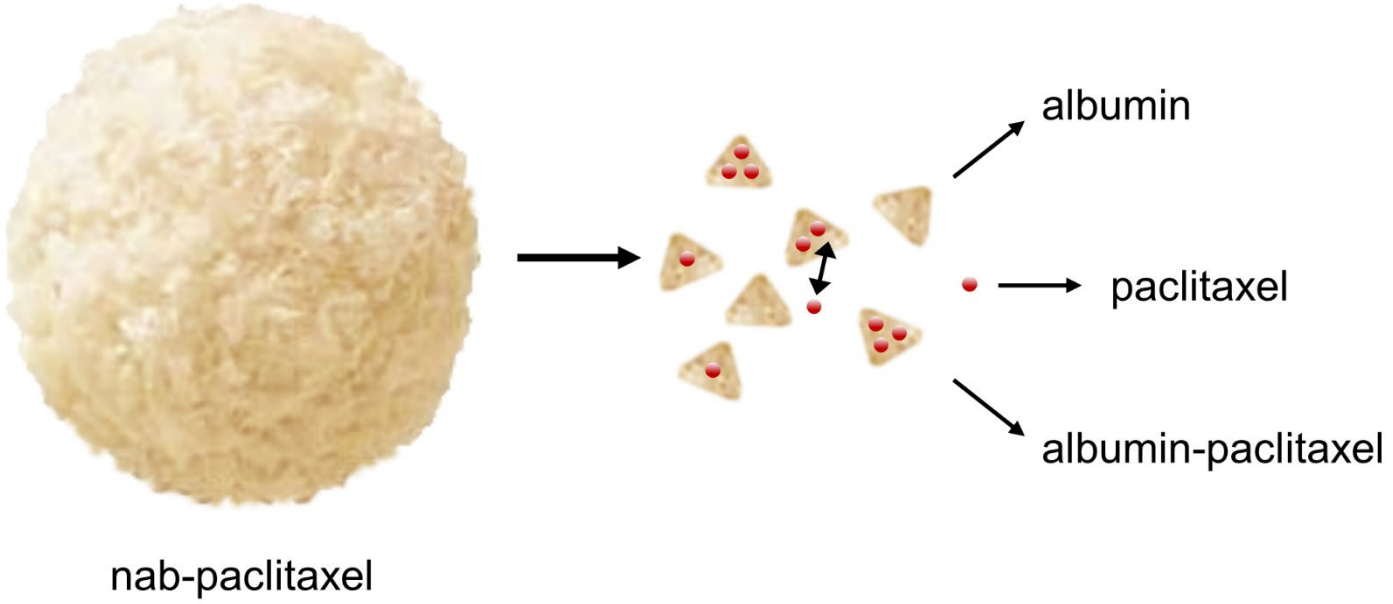
Pazenir®



- Freely dissociates after reconstitution into albumin-bound paclitaxel complexes
- Data for the in-use stability were so far limited to 8 hours
- Our data supports an extension to 22 days (refrigeration) and 7 days (room temperature)

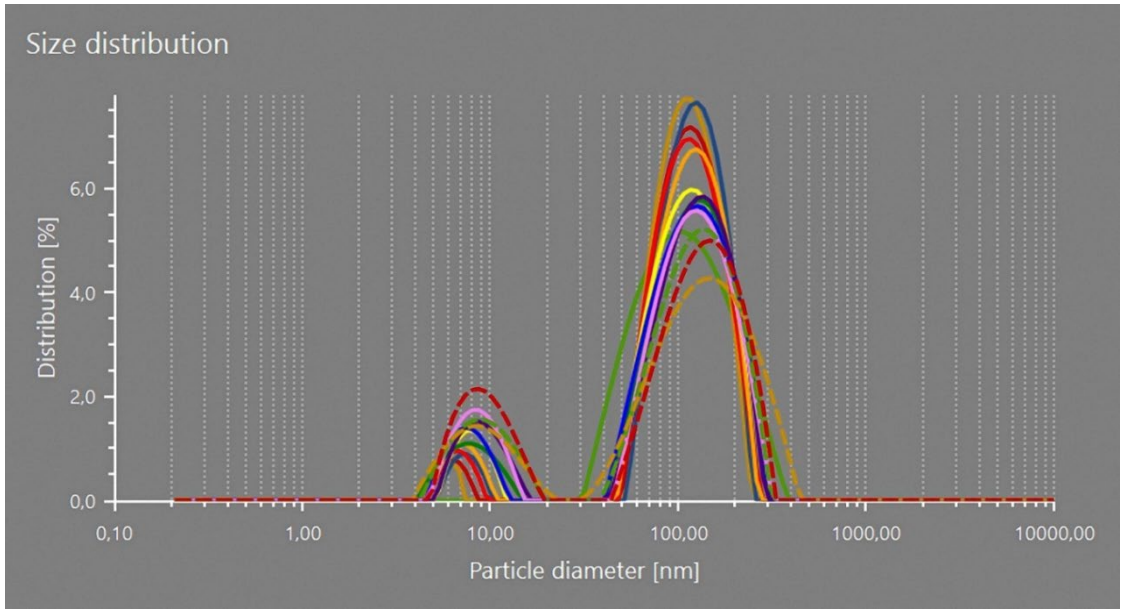
Dissociation of albumin bound paclitaxel (nab-paclitaxel)



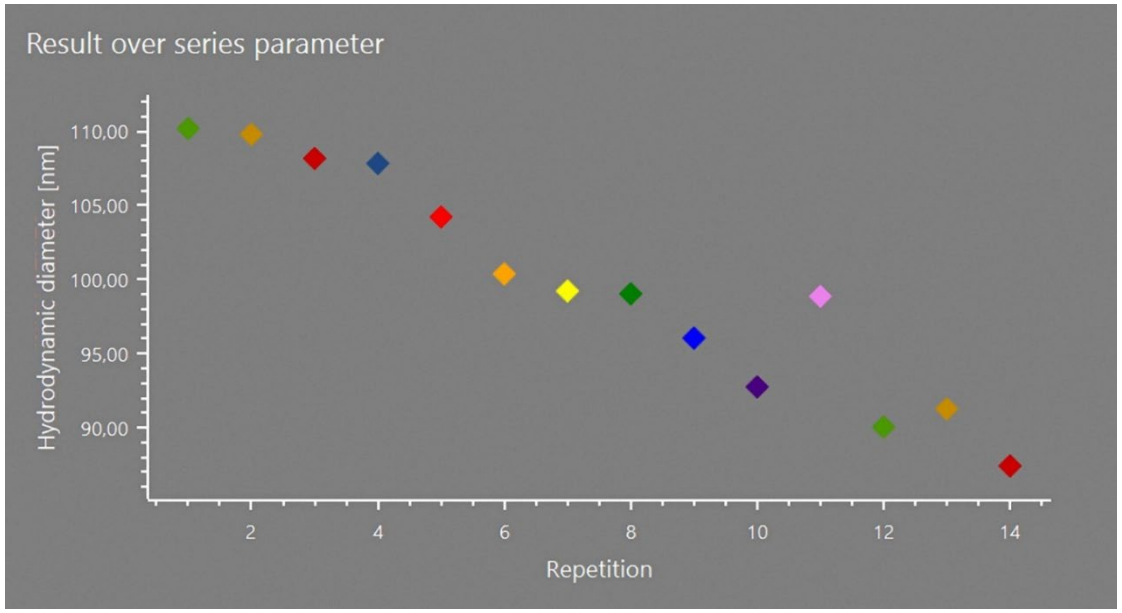
Analytics

- All measurements were performed with the dynamic light-scattering (DLS) instrument Litesizer™ 500 (Anton Paar GmbH, Graz, Austria) with standard polystyrene cuvettes
- Parameter measured:
  - Hydrodynamic diameter (Dh)
    - Virtual particle size
  - Polydispersity index (PDI)
    - Degree of non-uniformity of the size distribution of particles

Dissociation is a function of the dilution



Dissociation of a 20 µg/mL dilution at 23.5°C over 45 min



Dh of the 20 µg/mL dilution at 23.5°C over 45 min

Results at refrigeration

Storage time	5 mg/mL (n=9)			
(days)	Dh %	SD	PDI	SD
0	100,00	1,52	9,60	2,92
1	100,18	1,76	10,70	2,42
3	100,72	1,52	11,10	1,86
7	104,93	1,68	11,60	1,80
10	107,72	2,52	13,20	2,33
12				
13	109,47	1,34	11,00	1,00
14	109,80	1,61	11,10	1,58
15	113,03	3,05	12,50	2,17
16	113,91	5,98	11,40	1,91
17	115,86	5,50	14,30	1,83
18	117,05	3,84	11,20	1,13
19	118,57	1,69	11,20	1,46
20	119,81	1,98	13,50	1,81
21	126,04	4,15	17,20	2,30
22	129,16	7,00	18,70	2,31
23	Aggregation/Dissociation			

Each of the three samples were analysed in triplicate resulting in a total of nine measurements.

Results at room temperature

Storage time	5 mg/mL (n=9)			
(days)	Dh %	SD	PDI	SD
0	100,00	0,53	10,40	1,52
1	103,00	0,41	9,90	1,29
3	108,17	0,97	13,50	1,35
4				
6	106,48	0,28	12,10	0,82
7	110,36	2,14	12,30	1,13
8	Aggregation/Dissociation			

Each of the three samples were analysed in triplicate resulting in a total of nine measurements.

Conclusion

- The main objective of the paclitaxel nanoparticles is not to control release or disposition in the bloodstream
  It is primarily designed to overcome the poor solubility of paclitaxel in the infusion solution
- For this reason, the integrity of the nanoparticles plays a subordinate role since full solubility is still given even after the disintegration of the nanoparticles to form albumin-bound paclitaxel complexes
- Our results for dispersions of Pazenir® reconstituted according to the summary of product characteristics (SPC) allow a significant extension of the in-use shelf-live avoiding costly drug wastage
- Time, storage temperature and concentration were key variable for the dissociation and/or aggregation