

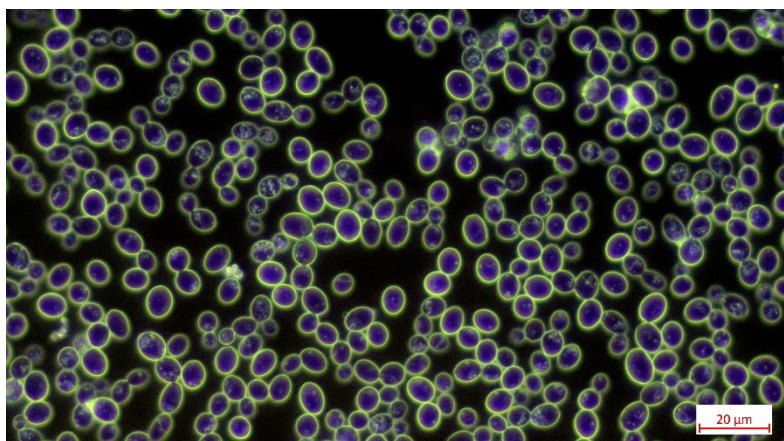
## PaterNorimberga - TUM 59 & Norimberga - TUM 69

*Saccharomyces pastorianus ssp. carlsbergensis*  
bottom fermenting brewing yeast

### Description

This yeast ferments somewhat more slowly but is highly flocculent and produces very fine aroma components given ample time for maturation in the lager tank. The flavor is very robust. With regard to wort composition, these strains are not particular. Strain Norimberga - TUM 69 remains in suspension longer than strain PaterNorimberga -TUM 59 and also attenuates more highly.

Examination parameters	Result
Original extract (%)	11.6
Apparent degree of attenuation (%)	61
Cells in suspension (Mio/ml)	28
pH value	4.55
Diacetyl (mg/l)	0.1
Acetaldehyde (mg/l)	7.5
Higher aliphatic alcohols (mg/l)	81
Esters (mg/l)	12.5
Foam according to Ross & Clark (sec)	121
Short characteristics	
Fermentation rate	average
pH drop	normal
Flocculation	poor
Diacetyl reduction	normal
Foam	low
Acetaldehyde	normal
Higher alcohols	normal
Esters	normal



Microscopic view of yeast strain Norimberga – TUM 69  
(Picture Norimberga – TUM 69© FZW BLQ)

#### References:

- Geiger E.; Tenge C.:Lecture "Microbiological analysis and Quality Monitoring" (date: summer semester 2007)  
 Geiger E.; Tenge C.: Lecture "Fermentation Technology" (date: winter semester 2007/2008)  
 Geiger E.; Tenge C.: Laboratory Protocol "Fermentation Technology /Organoleptic" (date: summer semester 2007)  
 Forschungszentrum Weihenstephan für Brau- und Lebensmittelqualität der TU München