```
exists_unique_elim  THM

⊢  ∀A:Type, P:(A→Prop).
|  (∃!u:A. P(u)) ⇒ (∀y,z:A. P(y) ⇒ P(z) ⇒ y = z)  by Auto
|
1. A : Type
2. P : A→Prop
3. ∃!u:A. P(u)
4. y : A
5. z : A
6. P(y)
7. P(z)
⊢  y = z  by Analyze3
|
3. u : A
4. u is the A s.t. P(u)
5. y : A
6. z : A
7. P(y)
8. P(z)
⊢  y = z
| by FwdThru: Hyp:4 on [ P(y) ] THEN FwdThru: Hyp:4 on [ P(z) ]
|
9. y = u
10. z = u
⊢  y = z  by Trivial
END
```