```
inhab_rep_eqv  THM

⊢  ∀F:(Prop{i}→Prop{j}). (∀P:Prop{i}. F(P)) ⟺ (∀A:Type{i}. F(∃∈A))
| by Auto
|
|\
| 1. F : Prop{i}→Prop{j}
| 2. ∀P:Prop{i}. F(P)
| 3. A : Type{i}
| ⊢  F(∃∈A)  by BackThru: Hyp:-2
|
.\
. 1. F : Prop{i}→Prop{j}
. 2. ∀A:Type{i}. F(∃∈A)
. 3. P : Prop{i}
. ⊢  F(P)
. | by Inst: Thm*  ∃A:Type{i}. P = (∃∈A) ∈ Prop    {inhab_rep_axiom}
. |    Using:[P]
. |    THEN
. |    Analyze-1
. |
. 4. A : Type{i}
. 5. P = (∃∈A) ∈ Prop{i}
. ⊢  F(P)  by Rewrite by P = (∃∈A) ∈ Prop{i}
. |
. ⊢  F(∃∈A)  by BackThru: Hyp:2
END
```