```
decidable__list_all  THM

⊢  ∀P:(T→Prop), L:T List. (∀x:T. Dec(P(x))) ⇒ Dec(∀x∈L.P(x))
| by UnivCD
|
1. T : Type
2. P : T→Prop
3. L : T List
4. ∀x:T. Dec(P(x))
⊢  Dec(∀x∈L.P(x))
| by ListInd 3 THEN Rewrite (HigherC list_all_unrollC) 0
|
|\
| ⊢  Dec(True)  by ProveDecidable
|
.\
. 5. u : T
. 6. v : T List
. 7. Dec(∀x∈v.P(x))
. ⊢  Dec(P(u) & ∀x∈v.P(x))
. | by BackThru
. |    Thm* Dec(P) ⇒ Dec(Q) ⇒ Dec(P & Q)    {decidable__and}
. |
. |\
. | ⊢  Dec(P(u))  by HypBackchain
. |
. .\
. . ⊢  Dec(∀x∈v.P(x))  by Trivial
END
```