**Avery, McLeod & McCarty Experiment**

In 1944, Oswald Avery, Colin Macleod and Maclyn McCarty revisited Griffith’s experiment and concluded that the transforming material was pure DNA not protein or RNA. These investigators found that DNA extracted from a virulent strain of the bacterium *Streptococcus* *pneumoniae*, also known as *pneumococcus*, genetically transformed an avirulent strain of this organism into a virulent form.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type IIR cells | Type IIR cells | Type IIR cells | Type IIR cells | Type IIR cells |
|  | + | + | + | + |
|  | Type IIIS DNA extract | Type IIIS DNA extract | Type IIIS DNA extract | Type IIIS DNA extract |
|  |  | + | + | + |
|  |  | DNase | RNase | Protease |
| ↓ | ↓ | ↓ | ↓ | ↓ |
| NO transformation | transformation | No transformation | transformation | transformation |

Fig: Avery, MacLeod and McCarty had shown that only DNA extracts from Scells caused transformation of R cells to S cells was treated with RNase, DNase and Proteasr and then mixed with R cells