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### **Binding characteristics of Protein A and Protein G**

Protein A and G are bacterial proteins from *Staphylococcus aureus* and *Streptococcus*, respectively, which can be used for the specific purification of IgG. The binding of IgG occurs at the FC-part of the IgG and is depended on the IgG subtype.

The table below will help to decide which affinity support is best for your application.

**Table: Binding characteristics of Protein A and Protein G**

<b>Human</b>	<b>Protein A</b>	<b>Protein G</b>
IgA	-/+	-
IgD	-	-
IgE	-	-
IgG1	++	++
IgG2	++	++
IgG3	-	++
IgG4	++	++
IgM	-/+	-
IgE	-	-
Fab	-	-

  

<b>Mouse</b>	<b>Protein A</b>	<b>Protein G</b>
IgG1	-/+	+ / ++
IgG2a	++	++
IgG2b	++	++
IgG3	+	++
IgM	-	-

<b>Rat</b>	<b>Protein A</b>	<b>Protein G</b>
IgG1	-	+
IgG2a	-	++
IgG2b	-	-/+
IgG3	+	+
<b>Guinea Pig</b>	<b>Protein A</b>	<b>Protein G</b>
IgG1	++	-/+
IgG2	++	-/+
<b>Rabbit</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	++	++
<b>Chicken</b>	<b>Protein A</b>	<b>Protein G</b>
IgY	-	-
<b>Goat</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	-	++
<b>Monkey</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	++	++
<b>Cow</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	+	++
<b>Sheep</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	+/-	++
<b>Hamster</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	-/+	+
<b>Horse</b>	<b>Protein A</b>	<b>Protein G</b>
IgG	-/+	++

++ strong binding  
 +/++ medium to strong binding  
 + medium binding  
 -/+ weak to medium binding (variable)  
 - weak or no binding